

Gary F. Snellings, Chairman
L. Mark Dudenhefer, Vice Chairman
Meg Bohmke
Jack R. Cavalier
Thomas C. Coen
Wendy E. Maurer
Cindy C. Shelton

Thomas C. Foley
County Administrator

March 27, 2019

MEMORANDUM TO: Stafford County Planning Commission

FROM: Jeffrey A. Harvey, AICP
Director of Planning and Zoning

SUBJECT: *Amendment to the Design and Construction Standards for Landscaping, Screening and Buffering (DCSL)*

ATTACHMENTS:

1. Proposed Ordinance O19-15
2. Edited Proposed Design and Construction Standards for Landscaping, Screening and Buffering (DCSL) Manual
3. Complete Proposed Design and Construction Standards for Landscaping, Screening and Buffering (DCSL) Manual
4. Resolution R18-291
5. Resolution R18-218
6. Resolution R17-106

Staff Project Manager: Andrea Hornung

ISSUE:

The Planning Commission is to consider amendments to the Design and Construction Standards for Landscaping, Screening and Buffering (DCSL) (Attachment 2 with edits and Attachment 3 clean copy) and proposed Ordinance O19-15 (Attachment 1).

BACKGROUND:

The Board of Supervisors' Process Review Committee (PRC), comprised of Supervisors Bohmke and Snellings, worked with staff and community stakeholders to evaluate the effectiveness of the County's development review processes and develop action items for change. At its meeting on March 7, 2017, the PRC briefed the Community and Economic Development Committee (CEDC) on its efforts to date.

Three high priority items were identified for potential ordinance changes. These potential changes included parking standards for all developments (commercial and residential), drive aisle, and private street standards for commercial developments, buffers, and landscaping standards.

Resolution R17-106 (Attachment 6) requested the Planning Commission develop amendments to the County's Zoning Ordinance regarding the Design and Construction Standards for Landscaping, Screening and Buffering (DCSL). The Resolution further requested the Planning Commission forward recommended amendments to the Board for review at the conclusion of its work. The Board would return

those amendments to the Planning Commission with applicable feedback for a public hearing on the amendments.

The Landscaping Standards Committee, comprised of Commissioners English and Boswell, met May 2017 and concluded in March 2018. Once amendments were completed, the amended DCSL was forwarded to the professional community (civil engineers and architects) for comments. Several comments were included in the amended DCSL. The committee addressed all comments from the professional community.

At its meeting, March 28, 2018, the Committee recommended forwarding the amended DCSL, definitions and plant list to the Planning Commission for comments prior to sending the document to the Board of Supervisors for review.

COMMENTS:

The DCSL was developed in 2005 to establish uniform standards for landscaping and buffering. The DCSL covered the following items:

- street buffers;
- transitional buffers;
- parking lot landscaping;
- landscaping along vehicle access drives;
- street trees;
- screening;
- credits for existing vegetation;
- substitution for types of plants;
- alternative compliance when buffer width need to be reduced;
- departure from design standards when the buffer width or planting requirements can't be met; and
- construction standards.

Since the time the DCSL was adopted, the County created a number of urban style mixed use zoning districts which may not fit well or conflict with suburban style buffer yards and landscaping.

The list below summarizes the comprehensive list of recommended changes to the DCSL:

- Correct spelling and font;
- Correct Departments as a result of reorganization;
- Removed page numbers until a clean copy of the document is finalized;
- Added a statement encouraging the use of native species and xeriscaping practices;
- Prohibited the use of invasive species;
- Revised Section 110 Buffer yards;
 - Clarified plant units, percentages and included ornamental grasses;
 - Added maintenance within buffer yards;
 - Clarified percentage of shrubs, understory and large trees;
 - Added no planting closer than 40 feet from edge of right of way;
 - Amended buffer yard from 15 to 25 feet wide exclusive of all easements for residential subdivisions adjacent to arterial or collector streets;

- Amended plant units from 21 to 75 per every 100 linear feet for residential subdivisions adjacent to arterial or collector streets;
- Added transportation line of sight requirement maintaining plantings greater than 3 feet and less than 10 feet in height for all development;
- Amended buffer yard from 25 to 15 feet wide for non-residential developments adjacent to arterial or collector streets;
- Amended plant units from 75 to 50 per every 100 linear feet exclusive of all easements for non-residential developments adjacent to arterial or collector streets;
- Added pre-existing hardships not self-imposed;
- Section 120 Landscaping;
 - Clarified plant units and added ornamental grasses;
 - Added maintenance requirements;
 - Detailed interior parking lot requirements for 24 lots or more;
 - Added a minimum of 5% of the impervious area parking lot shall be landscaped;
 - Added size of planting areas in landscape islands to be no smaller than 150 sq. feet with no maximum
 - Added landscape islands shall be placed at the end of all parking bays;
 - Added requirements for parking to incorporate
 - islands every 16 spaces for single row and 32 spaces for double row;
 - Changed LID, low impact development to IMP, integrated management practices per stormwater management regulations;
 - Added and clarified residential and non-residential planting requirements for street trees;
 - Clarified line of sight;
- Section 140 Credits, Substitution, Alternative Compliance, Departure from Design Standards;
 - Clarified landscape credits;
 - Added landscape credit application required for requesting credits on developments;
 - Removed language that an Alternative Compliance is required prior to requesting a Departure from Design Standards;
 - Clarified requirements for requesting a Departure from Design Standards that must be submitted via an application with justification;
- Section 150 Construction Standards;
 - Clarified plant type, size and characteristics;
 - Included required notes to be embedded in the approved plans;
 - Updated and clarified planting schedule tables;
 - Deleted the existing plant list;
- Section 200 Definitions;
 - Added and amended definitions;
- Section 300 References; and
 - Added a reference list that details common references used for landscaping and accepted by the professional community.

The Planning Commission forwarded the draft DCSL on May 23, 2018, to the Board of Supervisors to begin the public hearing process. The Board of Supervisors Community and Economic Development Committee discussed the draft DCSL at their September 4, 2018, meeting and forwarded to the Board of Supervisors for further action.

At their October 16, 2018 meeting, the Board of Supervisors referred the draft DCSL and Ordinance O18-37 by Resolution R18-218 to the Planning Commission to schedule a public hearing. After meetings with

Supervisor Shelton on December 11, 2018, additional concerns were raised for the Planning Commission to address prior to scheduling a public hearing. A summary of the concerns with responses are listed below:

- Emphasis should be placed on using native species. Native species should be required for transitional buffers. *Incorporated language in the DCSL specifying native species are encouraged.*
- Emphasis should be placed on using drought tolerant plants. Include a plant source listing into the document. *Incorporated language in the DCSL specifying xeriscaping practices are encouraged and references include species of drought tolerant plants to utilize on landscape plans.*
- Certain types of grasses should count as one plant unit similar to a small shrub. *Added ornamental grasses equivalent to 1 plant unit similar to small shrubs.*
- Current draft does not allow SWM facilities to count towards parking lot landscaping. Want to better integrate landscaping with SWM. Remove disincentive from doing so. *Stormwater management is governed by local and state regulations which could render landscaping requirements in nonconformance if the stormwater management regulations change in the future.*
- Cap on landscape island size of 300 square feet does not support integrating SWM with parking lot landscaping. Referenced the hospital parking lot as a good example. Large infiltration area with landscaping located between parking areas. *Removed maximum requirement of 300 square feet and revised the minimum requirement to 150 square feet exclusive of curbing.*
- Curb should be designed to allow water to flow into swm areas. *Design completed at construction or site plan review and can be allowed.*
- Fringe areas should be able to grow out naturally and not be maintained as manicured lawn. *No other counties address or mention such areas.*

Based on the additional information required, the Planning Commission requested an extension to complete review of the DCSL. The Board granted the extension to March 31, 2019 by Resolution R18-291 approved December 11, 2018. Additional information was included in the resolution and required the Planning Commission to incorporate xeriscaping design principles and the preservation of natural areas into buffering, landscaping design standards including other amendments to the Zoning Ordinance per proposed Ordinance O18-37.

The following was discussed at the Planning Commission subcommittee's meetings January 10 and finalized February 25, 2019:

- Research standards from other jurisdictions for interior parking lot landscaping and compare to the current draft. *Peer localities compared and discussed.*
- Consider requiring 50% of required landscaping islands be no more than 300 square feet and dispersed throughout the parking lot area. The remaining landscaping islands may be located in consolidated areas larger than 300 square feet. *Removed maximum requirement of 300 square feet and increased minimum requirement to 150 square feet.*
- Reduce the requirements for interior parking lot landscaping islands and plant unit requirements for industrial uses. *No peer locality included separate landscaping requirements for industrial uses, therefore not addressed.*
- Define fringe areas and provide a graphic where return to natural conditions can be permitted.
 - *No other counties address or mention such areas;*
 - *Buffers are allowed to be naturally vegetated;*
 - *Grassed open spaces in subdivisions are not regulated by the DCSL;*

- *Natural areas in open spaces would require submittal of a planting plan for a managed meadow to avoid tall grass complaints requiring mowing per the Zoning Ordinance; and*
- *These types of areas will be at the discretion of the developer of the homeowners association since fringe areas promote native plants and animals.*
- Allow plant units associated with SWM facilities in parking lot landscaping islands to count toward minimum parking lot landscaping requirements. *Cannot include stormwater management requirements since governed by other county code chapters and DEQ and areas are exempt.*
- Allow for the substitution of qualifying grasses for shrubs in landscape strips along streets and within parking lot islands. *Allow ornamental grasses equivalent to 1 plant unit (1 p.u.)*
- Consider allowing a delayed effective date for adoption in order to not adversely affect pending development plans. *Recommend a 60 or 90 delayed enforcement; and/or all projects currently under review not subject to adopted ordinance.*

As a result of the final Planning Commission subcommittee meeting, staff updated the DCSL for the following items and presented the DCSL and Ordinance O19-15 at the Planning Commission February 27, 2019 meeting:

- Typographical and technical errors;
- Propose a 5% landscaping method based upon the total parking lot area to include entire paved parking and vehicular circulation areas including all parking spaces and drive aisles;
- Require planting areas at the end of every parking row and spaced every 16 parking spaces for a single row or 32 parking spaces for a double row;
- Revise the current 12 plant units per 300 square feet of parking lot landscaping planting area to 12 plant units per 150 square feet exclusive of curbing which shall include a minimum of one (1) tree; and
- Update definitions to include xeriscaping.

The Planning Commission voted unanimously to send the DCSL and Ordinance O19-15 to public hearing on March 27, 2019.

RECOMMENDATION:

The Planning Commission has a time limit of March 31, 2019 in order to render a recommendation to the Board. Staff recommends adoption of the amended DCSL and Ordinance O19-15.

JAH:akh

Attachments (6)

PROPOSED

BOARD OF SUPERVISORS
COUNTY OF STAFFORD
STAFFORD, VIRGINIA

ORDINANCE

At a regular meeting of the Stafford County Board of Supervisors (the Board) held in the Board Chambers, George L. Gordon, Jr., Government Center, Stafford, Virginia, on the day of , 2019:

MEMBERS:

Gary F. Snellings, Chairman
L. Mark Dudenhefer, Vice Chairman
Meg Bohmke
Jack R. Cavalier
Thomas C. Coen
Wendy E. Maurer
Cindy C. Shelton

VOTE:

On motion of , seconded by , which carried by a vote of , the following was adopted:

AN ORDINANCE TO AMEND AND REORDAIN STAFFORD COUNTY CODE, SEC. 22-153, "LOTS FOR REQUIRED BUFFERS;" SEC. 28-25, "DEFINITIONS OF SPECIFIC TERMS;" SEC. 28-54, "PLANNED DEVELOPMENT-1 DISTRICT (PD-1) REGULATIONS;" SEC. 28-55, "PLANNED DEVELOPMENT-2 DISTRICT (PD-2) REGULATIONS;" SEC. 28-66, "P-TND, PLANNED TRADITIONAL DEVELOPMENT;" SEC. 28-67, "FALMOUTH REDEVELOPMENT AREA OVERLAY (FR);" SEC. 28-82, "REQUIRED BUFFERS;" SEC. 28-83, "BUFFERS FOR HISTORIC PROPERTIES AND DISTRICTS;" SEC. 28-86, "LANDSCAPING STANDARDS;" SEC. 28-88, "SCREENING STANDARDS FOR APPURTENANCES;" AND THE DESIGN AND CONSTRUCTION STANDARDS FOR LANDSCAPING, SCREENING, AND BUFFERING (DCSL) MANUAL BY REFERENCE

WHEREAS, the Process Review Committee (PRC) of the Board worked with staff and community stakeholders to evaluate the effectiveness of the County's Development review processes; and

WHEREAS, the PRC recommended amendments be prepared to the standards for Landscaping, Screening, and Buffering; and

WHEREAS, the Board carefully considered the recommendations of the Planning Commission and staff, and the public testimony, if any, received at the public hearing; and

WHEREAS, the Board finds that public necessity, convenience, general welfare, and good zoning practices require adoption of this Ordinance;

WHEREAS, the Design and Construction Standards for Landscaping, Screening and Buffering (DCSL) Manual was last adopted December, 2005; and

WHEREAS, the Planning Commission has recommended amendments to the standards for landscaping, screening and buffering to promote economic development and further the goals of the Comprehensive Plan;

WHEREAS, the Board carefully considered the recommendations of the Planning Commission and staff, and the public testimony, if any, received at the public hearing; and

NOW, THEREFORE, BE IT ORDAINED by the Stafford County Board of Supervisors on this the day of , 2018, that Stafford County Code Sec. 22-153, "Lots for Required Buffers"; Sec. 28-25, "Definitions of Specific Terms"; Sec. 28-54, "Planned Development-1 District (PD-1) Regulations"; Sec. 28-55, "Planned Development-2 District (PD-2) Regulations"; Sec. 28-66, P-TND, Planned Traditional Development"; Sec. 28-67, Falmouth Redevelopment Area Overlay (FR)"; Sec. 28-82, "Required Buffers"; Sec. 28-83, "Buffers or Historic Properties and Districts"; Sec. 28-86, "Landscaping Standards"; Sec. 28-88, "Screening Standards for Appurtenances" and the Design and Construction Standards for Landscaping, Screening, and Buffering (DCSL) Manual by Reference be and they hereby are amended and reordained as follows, all other portions remaining unchanged:

Sec. 22-153. - Lots for required buffers.

(a) All required, transitional or street buffers in accordance with ~~section 100~~ of the DCSL located in residential subdivisions shall be located on parcels conveyed to and maintained by a homeowner's association, (HOA) with the exclusion of the A-1, Agricultural and A-2, Rural residential zoning districts. Required open space lands for cluster subdivisions are exempt from this requirement.

(b) Open space parcels for the required buffers shall be exempt from the provisions of section 22-144 of this chapter and Table 3.1 of the zoning ordinance. If the open space parcel does not have frontage on a public street, ~~then~~ some form of access shall be provided, ~~even~~ by an easement ~~that is to~~ and shall be under the control of the HOA. Required open space lands for cluster subdivisions are exempt from this regulation.

Sec. 28-25. - Definitions of specific terms.

Buffer yard. A yard improved with landscaping and screening materials required between different intensities or between adjoining land uses for the purpose of decreasing the potential impact of different uses. The buffer yard is intended to recreate or preserve native woodlands. The buffer yard is also intended to remain free of buildings, impervious surfaces or parking areas. The minimum buffer width is generally a uniform width across the entire length of the common property line between lots on which uses are located that require a buffer yard.

Caliper. The diameter measurement of the trunk of nursery stock trees to be purchased for installation, at six (6) inches above the root collar. If the caliper measurement is greater than 4 inches at 6 inches above the root collar, the caliper measurement is measured at 12 inches above

the root collar. When measuring any tree, other than nursery stock, the tree is measured using the diameter at breast height (DBH) method (See DBH definition).

Diameter at breast height (DBH). The measured diameter of a tree measured outside the bark at a point four and one-half (4.5) feet (average breast height) above ground- level, measured from the uphill side of the side of the tree. This measurement is used for sizing existing trees.

Net linear feet. The amount of linear footage along a street or property line that requires a planting area, not including any area used for vehicular access or LID or any area being saved under the requirements of Section 140, Credits, of this document. It may include sidewalks and utility easements that cross perpendicular through the planting area.

Ornamental Grass – An annual or perennial grass plant valued for its texture and color in the landscape, typically grown for its showy foliage and visual contrast.

Planting area. Area of the property designated to provide the required planting of this document. It shall not include sidewalks and utility easements parallel to the street or property line for which the planting area is adjacent to.

Plant Unit (p.u.). A specific value assigned to each type of tree or shrub to determine the required amount of buffering or landscaping to be provided or credited within a designated area.

Privacy/Opaque Fence. A fence at least six (6) feet in height and does not allow the passage of radiant energy or light for all portions of the fence. Maintenance of the fence shall be in compliance with Section 28-89 of the Zoning Ordinance. Cloth, plastic or other fence covers attached to or inserted within a chain link fence shall not be permitted.

Shrub. A type of woody plant with relatively low height, consisting of several stems rather than a main trunk. A plant that, at the time of planting, is at least three (3) feet tall as measured from the highest root, and is one of the species listed in section 100 of the DCSL for shrubs.

Shrub, Large. A woody plant with relatively low height, consisting of several stems rather than a main trunk, which at maturity grows to greater than or equal to 3-feet in height.

Shrub, Small. A woody plant with relatively low height, consisting of several stems rather than a main trunk, which at maturity grows less than 3 feet in height or can survive pruning to 3 feet or less.

Tree. A woody, tall growing perennial plant generally with one main stem or trunk, but including multiple-stemmed plants, which characteristically develops many branches, generally at greater height above the ground than shrubs

Tree bed or planting bed. A planting area that encompasses the use of low-growing shrubs or groundcover, as depicted in graphic 6.1, Buffer (L-1) Option B and graphic 6.1 Buffer (J).

Tree, canopy. A type of tree that, under normal growth conditions, will compose the top layer or canopy of vegetation and generally reach a mature height at or above forty (40) feet. A tree that, at the time of planting, is at least twelve (12) feet tall above the highest root, has a minimum caliper of three (3) inches' diameter at breast height (DBH), ~~and is one of the species listed in section 100 of the DCSL for canopy trees.~~

Tree, Deciduous . Trees that lose their leaves each fall, go dormant for the winter, and leaf out again in spring.

Tree, Evergreen. A type of tree that produces vegetation year-round and can assist with more efficient screening techniques.

Tree, Large. A tree that, under normal growth conditions, reach a mature height at or above forty (40) feet. A tree that, at the time of planting, is at least twelve (12) feet tall above the highest root has a minimum caliper of three (3) inches diameter at breast height (DBH).

Tree, understory, or small. A type of tree that, under normal growth conditions, will grow to maturity beneath ~~canopy~~ large trees and generally reach a mature height between ten (10) and forty (40) feet. A tree that, at the time of planting, is at least five (5) feet tall above the highest root, ~~and is one of the species listed in section 100 of the DCSL for understory trees.~~

Xeriscape. A landscaping method developed especially for arid and semiarid climates that utilize water-conserving techniques, such as the use of drought-tolerant plants, mulch, and efficient irrigation.

Sec. 28-54. - Planned Development-1 District (PD-1) regulations.

(c) *Townhouse/multifamily residences.*

(3) Parking areas serving townhouses and multifamily uses shall provide landscaping, per ~~section 100~~ of the DCSL.

(e) *Commercial uses.*

(3) Off-street parking areas for commercial uses within the PD-1 district shall provide landscaping per ~~section 100~~ of the DCSL.

(f) *Open space requirements.* Development within the PD-1 district shall comply with all the buffering, landscaping and screening requirements of ~~section 100~~ of the DCSL.

Sec. 28-55. - Planned Development-2 District (PD-2) regulations.

(h) *Open space requirements.* Development within the PD-2 shall comply with all the buffering, landscaping and screening requirements per ~~section 100~~ of the DCSL, except for section 110.3, Transitional buffers. The following open space requirements shall be met:

(1) A type C transitional buffer, per ~~section 100~~ of the DCSL shall be established along all perimeter property lines of the development, except where the perimeter property line of the PD-2 district abuts a public street, and as provided below.

(2) A type C transitional buffer, per ~~section 100~~ of the DCSL shall be established along perimeter lines of the development that adjoins land designated as agriculture or rural residential in the land use plan.

(3) A type A transitional buffer, per ~~section 100~~ of the DCSL shall be established along perimeter property lines of the development that adjoins lands zoned as PD-1 or PD-2.

Sec. 28-66. - P-TND, Planned-Traditional Neighborhood Development.

(c) *Landscape, buffering and screening.* The P-TND shall be exempt from sections 28-82 and 28-86. A P-TND development shall only be subject to the transitional buffer requirements along the perimeter of the P-TND, if applicable, per section 110.3, Transitional buffers, of the DCSL.

Sec. 28-67. - Falmouth Redevelopment Area Overlay (FR).

(d) *Development standards.* All uses shall be subject to the use limitations and development standards as set forth in the underlying zoning district(s) and shall also be subject to the following FR limitations:

(9) A landscaping and planting plan shall be submitted in conjunction with site plan submittal.

e. New development that requires submittal of a site plan pursuant to article XIV of this chapter shall be exempt from the provisions of section 110.2, Street buffering along arterial and major collector streets, and section 110.3, Transitional Buffers of the Design and Construction Standards, Landscaping, Buffering, and Screening (DCSL). Screening pursuant to section 130 of the DCSL shall be reviewed for compliance with the Neighborhood Design Standards and Stafford County Master Redevelopment Plan, Volume IV, Falmouth Village Element of the Comprehensive Plan, as amended. The architectural review board shall review and approve all screening for compliance with the above-referenced standards and for compatibility with nearby architectural styles of buildings in the district.

Sec. 28-82. - Required buffers.

General. Except within the boundaries of a public airport, no structure or land which abuts a boundary between two (2) land uses, fronts on a major thoroughfare or which is subject to special buffer requirements as specified in ~~section 100~~ of the DCSL, shall hereafter be developed, used or occupied unless a buffer yard is provided in accordance with ~~section 100~~ of the DCSL. All buffers shall meet the requirements illustrated in ~~section 100~~ of the DCSL. Required open space land for cluster subdivisions shall not be used to satisfy any buffer requirements and landscaping buffer areas shall not be included as part of the required open space.

Sec. 28-83. - Buffers for historic properties and districts.

In order to protect historic resources, specific buffer yards are required around historic properties and historic resource overlay districts designated in the Stafford County Cultural Resource Inventory, archaeological sites and historic buildings located within HI districts, in addition to any other buffer requirements, as indicated in ~~section 100~~ of the DCSL. All development adjoining a designated historic district may require a transitional buffer in accordance with ~~section 100~~ of the DCSL. Because a historic site consists of associated landscape features and the relationships between landscape features, in addition to historic buildings and structures, buffer yards should include elements that retain or enhance the historic integrity of a site or building and should comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties and the Guidelines for the Treatment of Cultural Landscapes.

Sec. 28-86. - Landscaping standards.

(a) *Parking lot, interior.* ~~All off-street~~ Any surface parking areas lots containing twenty-four (24) ~~spaces~~ or more spaces shall be landscaped and shall provide planting areas within the boundaries of the parking lot in accordance with the standards set out and illustrated in ~~section 100~~ of the DCSL. Interior parking lot landscaping shall be provided in accordance with ~~section 100~~ of the DCSL. Parking garages and any development within the boundaries of a public airport shall not be subject to the interior parking lot landscaping requirements. The requirements ~~are~~ for each twenty-four (24) spaces ~~and~~ shall conform to the "limits area of the interior parking lot ~~planting area~~" diagram provided in ~~section 100~~ of the DCSL.

(b) *Parking lot, perimeter.* ~~All off-street~~ Any surface parking areas lots containing twenty-four (24) ~~spaces~~ or more spaces and buildings used for parking garages shall provide perimeter parking lot landscaping in accordance with ~~section 100~~ of the DCSL. This shall not apply to any development within the boundaries of a public airport.

(c) *Parking lot, vehicle access drive* Any surface parking areas lots containing twenty-four (24) ~~spaces~~ or more spaces and buildings used for parking garages shall provide a vehicle access drive landscaping in accordance with ~~section 100~~ of the DCSL. This shall not apply to any development within the boundaries of a public airport.

(d) *Street trees.* All development that fronts on a public street shall provide a ~~landscape strip~~ planting area in accordance with ~~section 100~~ of the DCSL for the purpose of providing street trees unless a buffer yard is required along the same street frontage. This shall not apply to any development within the boundaries of a public airport.

(e) *Landscaping installation and maintenance criteria.* All installation and maintenance of landscaping shall be in compliance with ~~section 100~~ of the DCSL.

(f) *Landscaping standard plant sizes and uses.* All required landscaping materials shall be of the type and minimum sizes set forth in ~~section 100~~ of the DCSL.

(g) *Credits*. Credits toward required buffers and parking lot landscaping may be granted by the agent as set forth in ~~section 100~~ of the DCSL.

Sec. 28-88. - Screening standards for appurtenances.

The following uses shall be screened from all public streets and adjacent property, unless the adjacent property contains the same use, by means established in ~~section 100~~ of the DCSL.

TCF:JAH:akh

DESIGN & CONSTRUCTION STANDARDS

Landscaping • Screening • Buffering

STAFFORD COUNTY, VIRGINIA

DECEMBER, 2005-Adopted 2019

[AKH1]



~~Design and Construction Standards for Landscaping, Buffering and
Screening (DCSL)
Stafford County, Virginia~~

~~SECTION 100~~

~~DESIGN AND CONSTRUCTION STANDARDS~~

Part 1

Design Standards

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Section 101.0 General

This document as referenced in the Code of the County of Stafford, Virginia, Chapter 28, may also be known as the “DCSL” or simply the “landscape manual”.

Section 101.1 Purpose

- (a) This manual, fully named THE DESIGN AND CONSTRUCTION STANDARDS FOR LANDSCAPING, BUFFERING AND SCREENING, STAFFORD COUNTY, VIRGINIA, has been developed and designed to assist the public in knowing the policies and regulations which apply to land development in Stafford County (County). The provisions contained herein relate primarily to the requirements which apply to the review and approval of ~~site~~ development plans and plats, and construction in accordance with those plans.
- (b) This documents effectuates or supplements requirements of the following:
 - 1. Zoning Ordinance
 - 2. Subdivision Ordinance
 - 3. Standardized Landscape Specifications for the Commonwealth of Virginia
 - 4. Code of the Commonwealth of Virginia
 - 5. Virginia Uniform Statewide Basic Building Code
 - 6. Chesapeake Bay Preservation Area Designation and Management Regulations VR-173-02-01
 - 7. Virginia Department of Transportation Standards and Specification
- (c) The laws and ordinance in Section 101.1(b) shall take precedence in the event of conflict between them and this manual
- (d) This manual is adopted by reference ~~an ordinance~~ and shall have the force and effect of law. In the event any part or provision of this manual is held to be illegal or void, this shall not have the effect of making void or illegal any of the other parts or provisions of this manual, which shall remain effective.
- (e) The standards and specifications contained herein are the minimum acceptable standards. The use of native species and xeriscaping practices are encouraged. The use of invasive species is shall not be not permitted. ~~The Director of Planning and Zoning~~ ~~for the director of Code Administration~~ may, in certain circumstances, require higher standards if it

is deemed necessary for the insurance of health, safety, and welfare of the citizens of the County.

Section 101.2 Effective Date:

The original effective date of this document was January 12, 2006 per Ordinance O05-33 adopted by the Board of Supervisors.

The document was last amended per ~~Resolution/Ordinances~~ O06-64 and O06-65 on the 19th day of September, 2006.

~~Prior amendments to this document: Resolution/Ordinance O06-64, approved on the 19th day of September, 2006. Resolution _____ approved on the ____ day of (month), 200__.~~

Section 101.3 Amendments:

- (a) ~~When this document is amended by the Planning Commission, such amendments shall take effect from the date of the Planning Commission approval thereof. The Board of Supervisors shall amend this document which shall be effective from the date of approval.~~
- (b) The provisions of this document are adopted as policies of the Board of Supervisors.

Section 101.4 Administration:

- (a) The provisions of this document shall be administered jointly and cooperatively by the ~~Office~~ Department of Planning and Zoning, ~~Office of Code Administration~~ and the ~~Public Service Department of Public Works~~.
- (b) Generally, the ~~Office~~ Department of Planning and Zoning shall be responsible for the formal approval, ~~and The bonding and security processes shall be the responsibility of the Department of Public Works, while the Public Service Department shall be responsible for engineering. The Office of Code Administration shall be responsible for the technical and permitting. All review of submissions was in coordination with other review agencies.~~
- (c) The ~~Office of Code Administration~~ Department of Planning and Zoning shall be responsible for site inspection and related enforcement of regulations found in the manual.

Section 101.5 Waivers and Departures:

- (a) The provisions of this document shall be required unless specifically waived, where applicable, by either the ~~director of Planning~~ Agent or the Planning Commission, according to their respective areas of administration, as cited in this document. Waiver

and Departure requests for fees, monetary contributions, escrows, and extensions of plan approval validity shall not be considered. (was omitted not a changed to the original)

- (b) In considering and acting upon waivers and departures and in consideration of the public health, safety, and welfare, the County may prescribe appropriate conditions and safeguards to further express the intent of this manual.
- (c) Waivers and Departures shall be part of the official record of the submission by an application with the appropriate fees.

Section 101.6 Fees:

The application fees for review of plats, plans, waivers, departures or other necessary documents, are established by the Board of Supervisors by resolution.

Section 101.7 Appeals of ~~Directors~~ Agent's Decision:

The decision of the Agent ~~director of Planning or the director of Code Administration~~ is final. If the ~~director of Planning~~ Agent ~~or the director of Code Administration~~ disapproves any plan submitted pursuant to all processing requirements identified in the section, and the applicant of such plan contends that such disapprovals were not properly based on applicable state and local ordinances and policies, (s)he may appeal to the Board of Supervisors. Such appeal must be filed with the Board of Supervisors within ten (10) days of the written disapproval of by the Agent ~~director of Planning or the director of Code Administration~~.

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Section 101.8 Criminal Penalties – Emergency Orders:

Refer to Article XVII, Enforcement, of the Zoning Ordinance

Section 102 Applicability

Buffer areas, basic landscaping, tree cover requirements and screening shall be provided for all major developments except for any development within the boundaries of a public airport, where required by the Zoning Ordinance and in accordance with this document.

~~Ord. No. 006-64, 9-19-06~~

Section 103. – 109. Reserved

Buffery Yards

Section 110.0 Buffer Yards

All major development may be subject to Sections 110.1, 110.2, ~~110.2~~, and 110.3~~32~~ of this document. Sections 110.1, 110.2, ~~110.2~~ and 110.3~~32~~ will determine the location, width and plant units for each buffer yard. Paragraphs (a), ~~(b)~~, ~~(e)~~, and ~~(d)~~ through (j) are applicable to all buffer yards.

a. Plant Units

~~Canopy~~ Large Trees = 10 p.u.'s each

Understory Trees = 7 p.u.'s each

~~Evergreen~~ = 7 p.u.'s each

Large Shrubs (≥ 3-feet in height) = 3 p.u. each

Small Shrubs (< 3-feet in height) = 1 p.u. each

Ornamental Grasses = 1 p.u. each

b. Plantings must be a mix of plant unit types as follows: (50) percent of the p.u. shall be large trees; (30) percent of the p.u. shall be understory trees; (10) percent of the p.u. shall be large shrubs; and (10) percent of the p.u. shall be small shrubs and/or ornamental grasses.

c. When calculating number of individuals the results shall be rounded up.

~~No more than fifteen (15) percent of the total plant units may be shrubs.~~

~~b.d.~~ A minimum of 25 percent of the total number of shrubs shall be evergreen shrubs.

e. A minimum of 20 percent of the total number of large trees must be large size evergreen trees, and a minimum of 20 percent of the total number of understory trees must be understory size evergreen trees.

f. Sections 110.1 and 110.3~~and 110.2(1)~~: Maintenance within these buffers shall be the minimum necessary to retain a healthy natural appearance of native vegetation with a natural ~~detritus~~ ground cover. ~~Vegetation can be pruned for healthy growth and balance. Dead or dying vegetation can be removed but must be replaced in kind. Lawn clippings and yard waste shall not be disposed of within any buffer yard.~~

e.g. Section ~~110.2(2)~~ 110.2: Maintenance within this buffer type shall be the minimum necessary to retain healthy vegetation; shall

include regular pruning/shaping of the vegetation to maintain healthy growth and desired appearance; shall maintain required vegetation heights; and can include regular weeding/mulching to promote a sculptured appearance.

~~d.h.~~ If a 5 foot berm, 8 foot solid freestanding wall or noise abatement wall is located within the buffer yard, plant units and buffer yard width shall be reduced by 50%. The berm or wall shall be located nearest to the right-of-way, freeway/interstate.

~~e.i.~~ If a 3 foot berm or 3 foot solid freestanding wall ~~that's~~ similar to the material of the primary building is located within the buffer yard, the width of the buffer yard shall be reduced by 25%.

~~f.j.~~ For Section 110.332, Transitional Buffers. If a six (6) foot tall privacy/opaque fence is located within the buffer yard, plant units and buffer yard width shall be reduced by 50%. The fence should be located nearest to the abutting property.

Section 110.1 Street Buffers adjacent to along Freeways/Interstates

The following are bBuffer requirements for all development adjacent to roads designated by VDOT as a freeway/interstate. Access to this road is strongly restricted.

a. A buffer yard as required shall be provided along the entire frontage along the road designated as a freeway/interstate.

a.b. When planting is required, evergreens shall not be placed within 40 feet from the edge of the right-of-way.

b.c. A noise impact study shall be conducted and submitted with the application to Stafford County and VDOT ~~for~~ for all residential development adjacent to a freeway/interstate to determine if noise abatement walls shall be required. VDOT State Noise Abatement Policy, effective January 1, 1997 as amended, shall be applicable. The U.S. Code of Federal Regulations part 772(23 CFR 772) will be the guiding document for the analysis and abatement of highway traffic noise.

Page 8

e.d. If a noise abatement wall is required, it shall be the responsibility of the developer/development to coordinate the location, design, construction and maintenance of the wall with VDOT officials. This includes providing funds that VDOT may not receive as a result of the funding programs described in the U.S. Code of Federal Regulations part 772 (23 CFR 772).

d.e. The wall shall be shown on the approved preliminary subdivision or construction plan with a note stating at what phase the wall will be constructed. The plan shall show any construction easements that may be required to construct the wall.

e.f. If the noise abatement wall is required and is not eligible for funding per the U.S. Code of Federal Regulations part 772 (23 CFR 772), ~~then~~ alternative means to best satisfy the results of the study must be approved via a Departure from Design Standards.

(1) Major Residential Subdivisions development adjacent to Freeways/Interstates

- a. —The buffer yard width is 100' with 325 Plant units per every 100 linear feet.

(2) **Non-residential Ddevelopment ~~adjacent to Freeways/Interstates~~**

- a. The buffer yard width is 60 feet with 132 Plant units per every 100 linear feet.

Section 110.2 Street Buffers adjacent to Arterial or Collector streets

The following are buffer requirements for all development adjacent to roads designated by VDOT as arterial streets or collector streets.

(1) Major Residential Subdivisions

- (a) The planting area shall be 25 feet wide with 75 Plant units per every 100 linear feet and shall be exclusive of all parallel easements.
- (b) Per Section 22-153 of the Subdivision Ordinance, the buffer yard shall be an open space parcel, except A-1 and A-2 zoning districts. This open space parcel will be under the ownership of the homeowners association for that subdivision and used exclusively for the purpose of providing the required buffer yard.
- (c) Plantings shall not be located in an area that may create a visual obstruction along the street or within the area determined to be the line of sight for any intersection, drive aisles and parking aisles unless such vegetation is maintained so not to be located within the clear zone, which is the area located from 3 feet to 10 feet above the ground^[AGT2]. All vegetation shall be maintained regularly to maintain a clear line of sight and to remove any branches/limbs greater than 3 feet in height and less than 10 feet in height. This may be accomplished by selecting the proper plants based on size at maturity and regular pruning maintenance.

(2) Non-residential Development

- (a) The buffer yard shall be 15 feet wide with 50 Plant units per every 100 net linear feet and is exclusive of all parallel easements.
- (b) Plantings shall not be located in an area that may create a visual obstruction along the street or within the area determined to be the line of sight for any intersection, drive aisles and parking aisles unless such vegetation is maintained so not to be located within the clear zone, which is the area located from 3 feet to 10 feet above the ground^[AGT3]. All vegetation shall be maintained regularly to maintain a clear line of sight and to remove any branches/limbs greater than 3 feet in height and less than 10 feet in height. This may be accomplished by selecting the proper plants based on size at maturity and regular pruning maintenance.

Section 110.2 Street Buffering along arterial and major collector streets.

Buffer requirements for any development along these streets designated by VDOT as arterial and major collector streets in which direct vehicular access from development is limited.

(1) Major Residential subdivisions adjacent to an arterial and collector street.

(a) The buffer yard width is 15 feet with 21 Plant units per every 100 linear feet

(b) Per Section 22-153 of the Subdivision Ordinance, the buffer yard shall be an open space parcel, except A-1 and A-2 zoning districts. This open space parcel will be under the ownership of the homeowners association for that subdivision and used exclusively for the purpose of providing the required buffer yard.

(c) Plantings shall not be located in an area that may cause an obstruction of view along the street or within the area determined to be the line of sight for any intersection.

(2) Non-residential development adjacent to an arterial and collector street.

(a) Buffer yard width is 25 feet with 75 Plant units per every 100 linear feet.

(b) Planting shall not be located in an area that may cause an obstruction of view along the street or within the area determined to be the line of sight for any intersection.

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Section 110.332 Transitional Buffers

A transitional buffer may be required if the use of an adjacent property is different than the proposed development. See Table 1 to determine if a transitional buffer will be required. The transitional buffer shall be required along the entire length of the property line abutting the use that impacts the development. If a specific use is not listed, the Zoning Administrator shall determine the category in which the unlisted use will be categorized within.

(a) Per Section 22-153 of the Subdivision Ordinance, the transitional buffer on residential zoned properties, except A-1 and A-2, shall be an open space parcel. The open space parcel shall be owned and maintained by an HOA for the subdivision.

(b) If the developing property with a residential use is adjacent to a vacant residential or agriculture zoned property or property proposed to be a residential use according to an approved General Development Plan (GDP), then the developing property does not have to provide a transitional buffer providing a transitional buffer by the developing property is not required.

(c) If the developing property with a non-residential use is adjacent to a residential property, vacant property ~~that is zoned~~ residential or agricultural ~~zone~~, or property proposed to be a residential use according to an approved GDP, ~~then~~ the developing property ~~needs to~~ shall provide 100% of the required buffer for the highest intense residential use on Table 2 permitted on the adjacent property. If a hardship is encountered that is not self-imposed, the developing property has the option to provide screening as outlined in Section 130 (1), pending approval by the agent.

(d) If the developing property with a residential use is adjacent to a vacant property ~~that is zoned~~ non-residential ~~zone~~ or proposed to be a non-residential use according to an approved GDP, ~~then~~ the developing property ~~needs~~ shall ~~to~~ provide 100% of the required buffer for the highest intense use permitted on the adjacent property zoning district.

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(e) If the developing property with a non-residential use is adjacent to a vacant property ~~that is a zoned~~ non-residential ~~zone~~ or property proposed to be a non-residential use according to an approved GDP or Conditional Use Permit (CUP), ~~then~~ the developing property shall not be required ~~does not have~~ to provide a transitional buffer.

~~(f) — If a portion of the required transitional buffer has been established on the adjacent parcel, either as a transitional buffer or other regulations, then the developing property will only have to provide the remaining balance, including plant units that have not been provided.~~

~~(g)~~(f) Development of property zoned PD-2 (Planned development-2) shall be ~~is~~ exempt from complying with Table 1.0, Transitional Buffer matrix.

Table 1.0 Transitional Buffer

TB-A – 20' wide with 65 plant units per every 100 linear~~l~~ feet

TB-B – 35' wide with 115 plant units per every 100 linear~~l~~ feet

TB-C – 50' wide with 162 plant units per every 100 linear~~l~~ feet

TABLE 2 TRANSITIONAL BUFFERS MATRIX												
PROPOSED USE	ADJACENT USE											
	1	2	3	4	5	6*	7	8	9	10	11	12
Residential Uses												
1. ACTIVE AGRICULTURE		A	A	B	B	B	B	C	C	C	C	C
2. SINGLE FAMILY DETACHED	A		A	B	B	B	B	C	C	C	C	C
3. SF Attached/Multifamily	A	A		A	B	B	B	B	C	C	C	C
4. DESIGNATED HISTORIC SITES - includes bed & breakfast	B	B	A		A	B	B	B	C	C	C	C
Public / Quasi Public												
5. Active Recreation Facilities. Include outdoor recreational enterprises & community center	B	B	B	A		A	A	B	B	B	C	C
6. PUBLIC FACILITIES - treatment plants, fire/rescue stations, railroads*	B	B	B	B	A		A	B	B	B	C	C
7. INSTITUTIONAL- Schools, places of worship, day care facilities.	B	B	B	B	A	A		A	B	B	B	C
Non-Residential Uses												
8. CARE FACILITIES - Retirement housing, nursing/convalescent homes, assisted care, hospitals, emergency fac., Animal Hospital, veterinarian office, kennels	C	C	B	B	B	B	A		A	B	B	C
9. COMMERCIAL/OFFICE/RETAIL - includes hotels, motels, banks, restaurants, drive thru's, theaters, club/lodge/fraternal organizations, indoor recreational enterprises, contractors business without outside storage, funeral homes	C	C	C	C	B	B	B	A		A	B	C
10. AUTO SALES, REPAIR & SERVICE - includes vehicle fuel sales (gas station), Car Wash (not truck wash) & vehicle rentals	C	C	C	C	B	B	B	B	A		A	B
11. LIGHT INDUSTRIAL/MANU - includes mini-storage, wholesale business, contractor business with outside storage, printing/publishing/engraving, research facilities	C	C	C	C	C	C	B	B	B	A		A
12. HEAVY INDUSTRIAL - Manufacturing, processing- includes Auto Salvage, Junk & Graveyards, recycling, truck/freight terminal, truck wash	C	C	C	C	C	C	C	C	C	B	A	
*Excludes correction facilities												

Ord. No. O06-64, 9-19-06

Section 111. - 119. Reserved

Landscaping

Section 120.0 Landscaping

All development may be subject to Sections 120.1, 120.2, 120.3 and 120.34 of this document. The sections will determine the location, width and plant units for each planting area to provide landscaping. Paragraphs (a) ~~and (b)~~ through (b) are applicable to all planting areas.

(a) Plant Units

~~Canopy~~Large Trees = 10 p.u.'s each

Understory Trees = 7 p.u.'s each

Evergreen = 7 p.u.'s each

Large Shrubs (\geq 3-feet in height) = 3 p.u. each

Small Shrubs ($<$ 3-feet in height) = 1 p.u. each

Shrubs = 1 p.u. each

Ornamental Grasses = 1 p.u. each

(b) When the planting area abuts a street or property line, it shall be provided within twenty-five (25) feet from the street or property line

(c) A minimum of 20 percent of the total number of shrubs and understory trees must be evergreen. Street trees required for major residential subdivisions shall be exempt from this requirement.

(d) Maintenance shall be the minimum necessary to retain healthy vegetation; shall include regular pruning/shaping of the vegetation to maintain healthy growth and desired appearance; shall maintain required vegetation heights; and can include regular weeding/mulching to promote a sculptured appearance.

Section 120.1 Parking Lots, Interior

(a) ~~Any surface All~~ parking lots ~~consisting of~~containing twenty-four (24) or more having equal to or greater than 24~~more than 24~~ parking spaces shall provide planting areas landscaping within the boundaries of the parking lot.

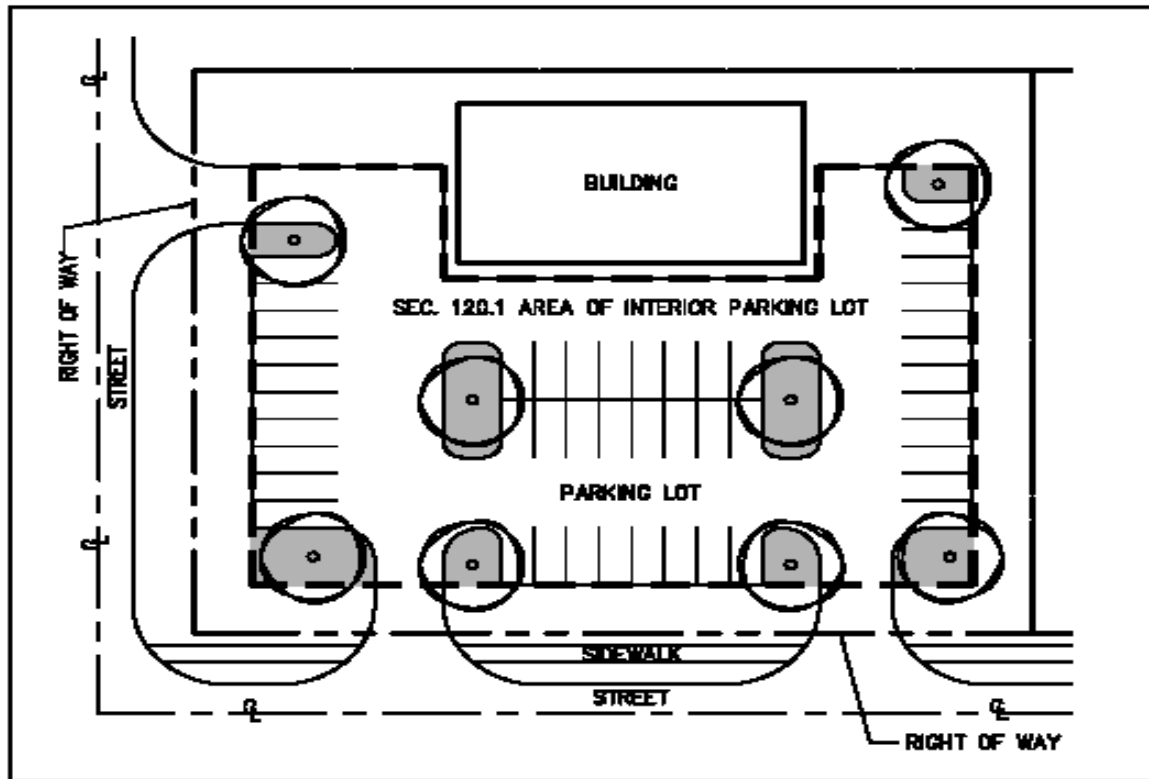
(b) The ~~parking lot Limits of the Interior Parking Lot Planting Area will~~ shall consist of the entire paved parking and vehicular circulation area, including all parking spaces and drive isles ~~and planting areas~~. It ~~will~~ shall not include any area associated with loading spaces unless the loading spaces are within the parking lot area, and not along the perimeter of the parking area.

(c) ~~Thirty~~ A minimum of five (5) percent Forty five (3045) square feet of the parking lot shall be landscaped with trees and/or shrubs and/or ornamental grasses. planting area for every parking space provided shall be required within the Limits of the Interior Parking Lot Planting Area.

- (d) 12 Plant Units for every ~~150~~ 300 square feet of ~~p~~Planting ~~a~~Area ~~shall be are~~ required, and shall include a minimum of one (1) tree.
- ~~(e) (e)~~ Landscape islands (planting area) shall be no smaller than ~~150~~ square feet (exclusive of curbing) and no larger than ~~300~~ square feet for single row parking bays, and no smaller than 300 square feet for double row parking bays.
- (f) Landscape islands shall be placed at the end of all parking bays.
- (g) For single row parking bays, there shall be no more than 16 parking spaces permitted between landscape islands. Where double row parking bays are provided, there shall be no more than 32 parking spaces permitted between landscape islands.
- (h) If the placement for such landscape islands results in planting areas greater than the minimum five (5) percent required, the higher percentage shall apply.
- (i) Plantings shall not cause an obstruction of view along the street or within any area determined to be the line of sight for any intersection, drive aisles and parking aisles unless such vegetation is maintained so not to be located in a clear zone which is greater than 3 feet in height and less than 10 feet in height. All vegetation shall be maintained regularly to allow for a line of sight and to remove any branches/limbs greater than 3-feet in height and less than 10^[AGT4]-feet in height. This can be accomplished by selecting the proper plant based on size at maturity and regular pruning maintenance.
- ~~(f) Plantings shall not be located in an area that may cause an obstruction of view along the street or within the area determined to be the line of sight for any intersection, drive aisles and parking aisles unless such vegetation is maintained so not to be located in a clear zone which is greater than 3 feet in height and less than 10 feet in height. All vegetation shall be maintained regularly to allow for a line of sight and to remove any branches/limbs greater than 3-feet in height and less than 10^[AGT5]-feet in height per CPTED guidelines. This can be accomplished by selecting the proper plant based on size at maturity and regular pruning maintenance.~~
- (jge) Parking spaces located within a building or structure (parking garage) shall not be subject to these requirements, ~~of paragraphs (3) and (4).~~
- (khf) Integrated Management Practices (IMP) Low Impact Development (LID). When all or a portion of the Planting Area within the parking area is used for (IMP) LID, the following steps ~~will~~ shall be used to determine the landscaping requirements for the planting area that is not utilizing IMP LID:

- (1) Determine the required square footage of ~~P~~planting area per Section 120.1(c).
- (2) Determine the square footage of planting area utilizing IMPLID.
- (3) Subtract Paragraph (2) from (1).
- (4) Provide the balance square footage of planting area required and provide landscaping in accordance with 120.1(d) above for the remaining balance only.
- (5) All planting areas utilizing IMPLID shall be ~~is are~~ exempt from 120.1(d) above.
- (6) ~~None of the~~ Landscaping provided in IMPLID areas are required components of these storm water features which are administered and regulated by the Department of Environmental Quality. Such landscaping shall not count towards the plant unit requirements for paragraph (4) above.

Example for Area of Interior parking Lot

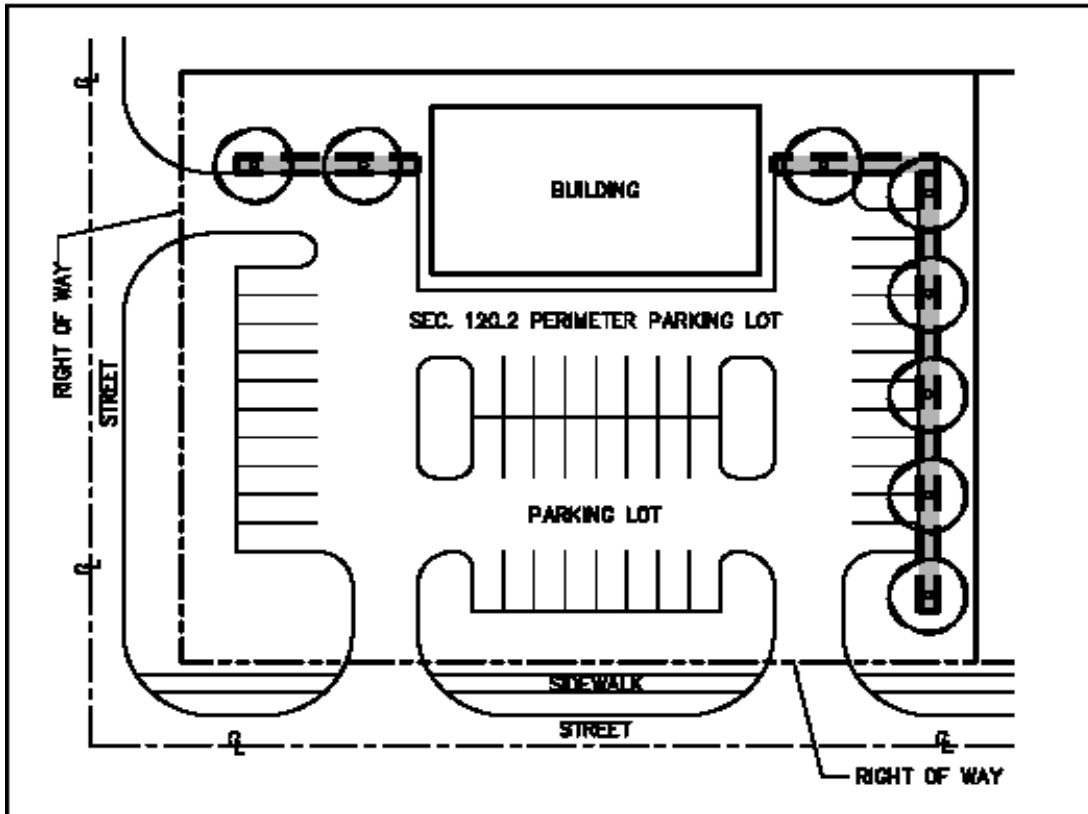


Section 120.2 Parking Lot, Perimeter

A planting area shall be provided along the perimeter of all parking lots. ~~that abuts a property line.~~

- (a) If the planting area between the parking lot and the property line is subject to Section 110.3~~2~~, Buffer Yards and/or 120.4 Landscaping, Street Trees Transitional Buffers of this document, ~~then~~ this section shall not apply is exempt.
- (b) The planting area shall be 5 feet wide with 35 Plant Units per every 100 net linear feet of the perimeter of the parking lot.
- (c) If any portion of the planting area is utilizing IMP LD, that portion shall be is exempt from this requirement.

Example of Area of Parking Lot Perimeter

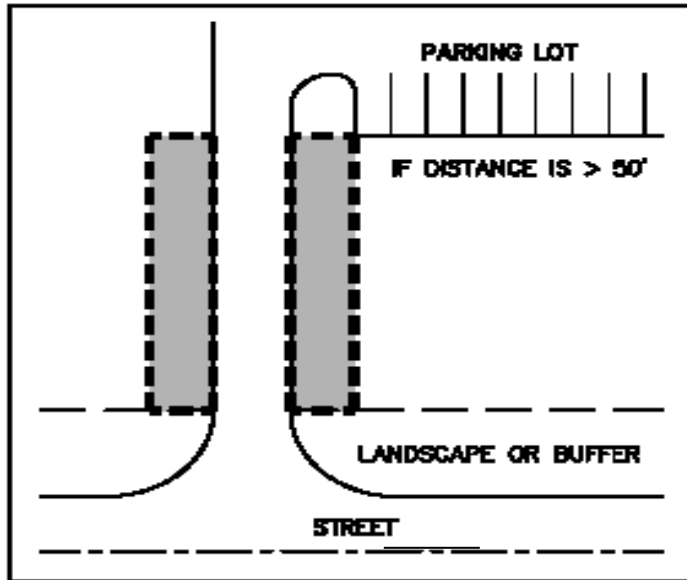


Section 120.3 Parking Lot, Vehicle Access Drive

A planting area shall be provided on both sides of an vehicular access drive, that is not a public street, between a required landscape or buffer yard and the parking lot, if the distance of the vehicular access drive exceeds fifty (50) feet.

- (a) If the planting area between the vehicle access drive and the property line is subject to Section 110.332, Transitional Buffers of this document, then this section ~~shall not apply~~ is exempt.
- (b) The planting area shall be 5 feet wide with 35 Plant Units per every 100 net linear feet of vehicle access drive.
- (c) If any portion of the planting area is utilizing ~~IMP LD~~, that portion ~~shall be is~~ exempt from this requirement.

Example for Vehicle Access Drive Landscape Area



Section 120.4 Landscaping, Street Trees

(1) **Major Residential Subdivisions: Single Family Detached**

- (a) A planting area shall be provided along the frontage for all streets abutting lots of a major major-residential subdivision that is not subject to the requirements of Sections 110.1 and 110.2 of this document.
- (b) The planting area shall be 10 feet wide with 10 plant units for every 100 net linear feet of along the street frontage. ~~Shrubs can not be used towards the plant unit totals.~~
- (c) ~~The~~ Large trees shall be utilized and spaced a maximum of 100 feet apart. A minimum of -and there shall be at least one (1) tree shall be provided for every lot. The trees shall not be located within the right-of-way.
- (d) A planting schedule shall be created based on the number of lots and net linear feet of street frontage.
- (e) The curve of the cul-de-sac counts towards the net linear footage of street frontage.

(2) **Major Residential Subdivisions: Single Family Attached/Multi Family**

- (a) A planting area shall be provided along the frontage for all streets abutting lots of a major residential subdivision that is not subject to the requirements of Sections 110.1 and 110.2 of this document.
- (b) The planting area shall be 10 feet wide along the street frontage.
- (c) Understory trees or large trees shall be utilized and spaced a maximum of 100 feet apart. When using understory trees in place of large trees, ~~then~~ three (3) small shrubs must accompany the understory tree within the same maximum 100 foot interval. The trees shall not be located within the right-of-way.
- (d) A planting schedule shall be created based on the net linear feet of street frontage.
- (e) The curve of the cul-de-sac counts towards the net linear footage of street frontage.

~~(3) **Residential Subdivisions: Adjacent to an arterial or collector street**~~^[AGT6]:

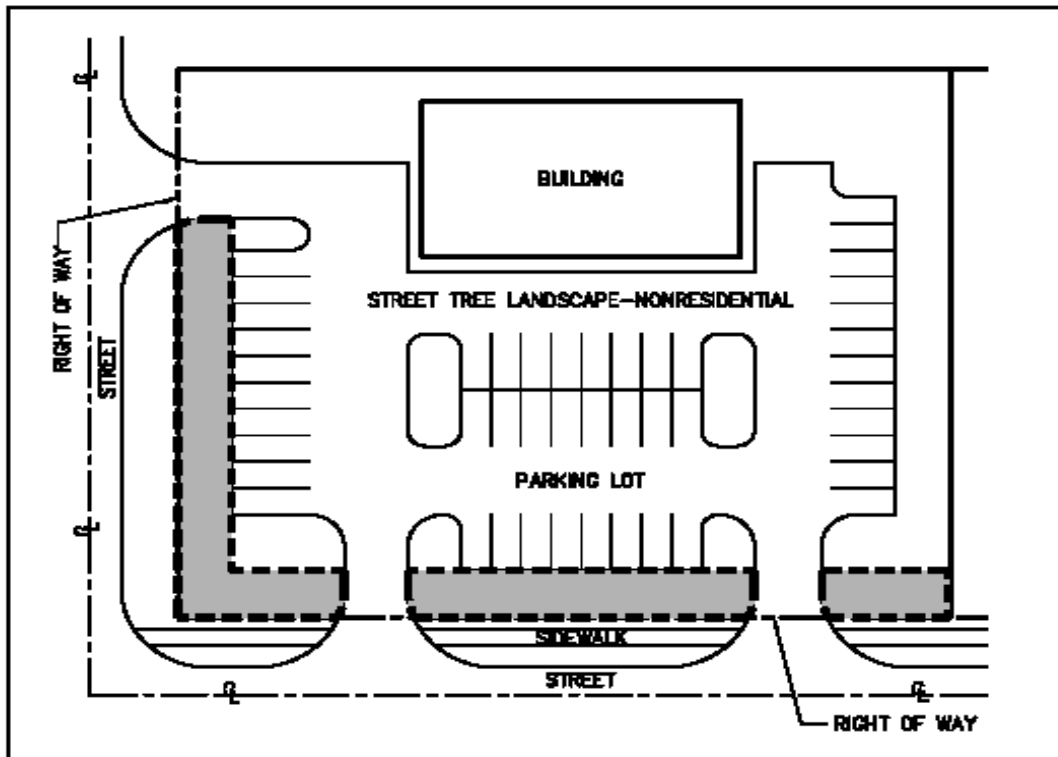
- ~~(a) The landscape strip width is 25 feet with 75 Plant units per every 100 linear feet and is exclusive of all parallel easements.~~
- ~~(b) Per Section 22-153 of the Subdivision Ordinance, the landscape strip shall be an open space parcel, except A-1 and A-2 zoning districts. This open space parcel will be under the ownership of the homeowners association for that subdivision and used exclusively for the purpose of providing the required buffer yard.~~
- ~~(c) Plantings shall not be located in an area that may cause an obstruction of view along the street or within the area determined to be the line of sight for any intersection, drive aisles and parking aisles unless such vegetation is maintained so not to be located in a clear zone which is greater than 3 feet in height and less than 10^[AGT7] feet in height. All vegetation shall be maintained regularly to allow for a line of sight and to remove any branches/limbs greater than 3 feet in height and less than 10 feet in height per CPTED guidelines. This can be accomplished by selecting the proper plant based on size at maturity and regular pruning maintenance.~~

(23) **Non-residential Development**

- (a) A planting area shall be provided along the frontage for all streets abutting a non-residential development that is not subject to the requirements of Sections 110.1 and 110.2 of this document.

- (b) The distance of street frontage shall not include any area used for vehicular access.
- (c) The landscape requirements shall not be ~~provided~~ located within a utility easement if the utility easement is not perpendicular to the street. The landscape requirements shall be ~~provided~~ located outside of the easement.
- (d) The planting area shall be 10 feet wide with ~~2150~~^[AGT8] Plant Units per every 100 net linear feet of street frontage.

Example of Street Trees Landscaping



~~(5) — Non-residential development adjacent to an arterial or collector street~~^[AGT9]:

- ~~(a) Landscape strip width is 15 feet with 21 Plant units per every 100 net linear feet and is exclusive of all parallel easements.~~
- ~~(b) Plantings shall not be located in an area that may cause an obstruction of view along the street or within the area determined to be the line of sight for any intersection unless such vegetation is maintained in a clear zone greater than 3 feet in height and less than 5 feet in height at maturity and maintained regularly to remove any branches/limbs greater than 3 feet and less than 5 feet in height per CPTED guidelines.~~

Section 121. – 129. Reserved

Screening

Section 130. Screening

The uses listed in Section 28-88 of the Zoning Ordinance shall be screened from any public street or adjacent properties by one (1) means of screening described below.

If the use to be screened is not the primary business or use on the property and is leased from the property owner, ~~then~~ the provisions being provided to screen the use shall be within the lease area and under the responsibility of the lessee and not the property owner.

- (1) Evergreen screen, 15 foot wide strip providing 2 staggered rows of evergreen trees at least 6 feet tall when planted and separated a ~~minimum~~ minimum ~~maximum~~ [AGT10] of 8 feet;
- (2) 8' high solid wall;
- (3) 8' high board-on-board/sight-tight fence; or
- (4) 5' high berm with 20 evergreen trees and 50 shrubs for every 100 linear 1 feet of street frontage.

Section 131. – 139. Reserved

Credits

Substitution

Alternative Compliance

**Departure from Design
Standards**

Section 140. Credits

A development may establish credit for existing vegetation provided the area being protected ~~is~~are located within a required planting area and is equal to or greater than the required Design Standards (Part 1) buffer to which the credits will be applied and the amount of plant units is equal to or greater than the amount required.

As part of the development plan review process, a Landscape Credits Request Letter shall be submitted to the Department of Planning and Zoning for review and approval. Site clearing, grading, and removal of existing vegetation as a means to avoid the review process shall be prohibited. In order to be complete, a landscape credits request shall include justification, tabulation, supporting documentation and graphics that may include photo diagrams.

Landscape Credit criteria are as follows:

- (a) Existing vegetation is of sufficient size and density to meet the intent of the document. The applicant shall include with the construction and/or site plan a plant inventory delineating all trees four (4) inches diameter at breast height (DBH) ~~dbh~~ and greater, specify the scientific and common names of species, and the tree save area must provide an acceptable cover of tree stand.
- (b) Plant Units for trees to be saved:
 - (1) 4" – 6" DBH = 10 Plant Units
 - (2) 7" – 12" DBH = 15 Plant Units
 - (3) 13" – 17" DBH = 20 Plant Units
 - (4) 18" – 24" DBH = 25 Plant Units
 - (5) 25" DBH + = 30 Plant Units
- (c) Trees must be structurally sound, healthy, without disease or insect infestation.
- (d) The dripline shall be surveyed and the limits of clearing shall be established ten (10) feet beyond the surveyed dripline to reduce the impacts generated from installation of silt fences and diversion dikes and equipment.
- (e) Buildings shall be located no closer than fifteen (15) feet from the dripline unless waived by the Agent.
- (f) Tree protection areas shall be established prior to clearing. The tree protection area shall be established with orange mesh fencing and clearing shall not exceed that shown on the plan. Any encroachment shall be deemed a violation of the credit approval and the owner/developer ~~will~~ shall be required to replant the area and resubmit a plan to the county showing the required planting for the buffer. A letter of request along with a

restoration plan ~~must~~ shall be submitted to the agent for approval. ~~The agent may deem that the site meet the requirements of this manual as a penalty of the encroachment.~~

- (g) All tree protection devices shall remain in place until the project is completed, inspected and approved by the agent.
- (h) When a portion of a buffer yard shown on the plan does not contain a significant stand of vegetation for preservation and does not meet the required plant units for the area, all attempts must be made to save the existing trees. The applicant must show on the plan the existing trees to be saved and the proposed trees needed to comply with the required plant units. If the buffer yard location has existing trees and they are to be removed, ~~then~~ the applicant must submit a letter of request to remove the existing trees with an attached mitigation plan to the Agent addressing deficiencies found in protecting the existing trees.
- (i) The planting area and plant unit requirements for Section 120.1, Parking Lot, Interior, of this document shall be reduced by fifty (50) percent if the applicant retains existing vegetation along the perimeter of the parking lot provided the area being saved doubles the amount of plant units and planting areas required for the interior landscape area. If the same tree saved area is subject to other sections of this document, ~~then~~ it must also meet the plant unit and width requirements of that section in order to be used towards the reduction of plant units and planting areas for Section 120.1. If additional trees are required in the tree save area to

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comply with other sections of this document, ~~then it can not~~ cannot be used to reduce the amount of plant units and planting areas for Section 120.1, Interior parking lot requirements.

Section 141. Substitution

The agent may grant the approval of the substitution of plants within a buffer or planting area provided the plants unit requirements remain equal to or greater than the amount required for that buffer or planting area. This does not permit the width of the required buffer or planting area to be reduced.

If the request for substitution is made after an application has been approved, ~~then~~ the applicant must submit the request in writing to the agent. The approved response from the agent shall be attached to the approved plan. The request must specify the trees being substituted and provide the reason for the substitution. The request must demonstrate how the substitution meets or exceeds the plant unit requirements for the buffer yard or planting area in which the substitution is being requested.

Section 142. Alternative Compliance

The agent may grant a request for an alternative compliance to reduce the width requirements of a buffer or planting area or minimum square footage of planting area requirements of a section or sections of this document, provided that the plant units are equal to or greater than the requirements of that section or sections.

The request shall demonstrate other provisions have been made to facilitate the reduction in the required width or square footage for planting areas.

The Alternative Compliance application is granted for the section or sections of this document in conjunction with a ~~subdivision, construction or site plan application, development plan, including but not limited to a subdivision, construction or site plan applications.~~

The request for an alternative compliance shall be submitted to the agent in writing on forms determined by the Department of Planning and Zoning. The letter shall explain the justification

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for the alternatives being sought and demonstrate how the plan will ~~meet or exceed the provide an equal or exceed the better~~ minimum ~~number amount~~ of plant units required for the buffer or planting area.

The ~~A~~agent shall provide an approval letter granting the alternative compliance and shall be embedded in the plans for in^[AGT11] which the alternative compliance was granted. ~~The original request and the response letter from the agent shall be attached to the plans in which the alternative compliance was granted for.~~

The alternative compliance is granted for a specific section or sections of this document as part of a specific development plan and ~~cannot can not~~^[AGT12] be used in conjunction with any other section of this document for the same property or another property.

If the application expires, ~~then~~ the granting of any alternative compliance associated with the plan shall also expire.

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Section 143. Departure from Design Standards

If relief from the amount of plant units requirements for a section or sections of this document is needed, a request for a departure from design standards application shall be is required. ~~If a request for alternative compliance was not approved, then a departure to reduce the width requirements for buffer yards and planting areas or the minimum square footage requirements for planting areas may be submitted.~~ The departure from design standards shall be approved by the Planning Commission after conducting a public hearing. ~~except as described in paragraph (f) below.~~

- (a) ~~The application shall be made on forms approved by the agent and shall include any required fee and required analysis of the request. The application for Departure from Design Standards along with the fee associated with the application must be submitted to the Planning Department.~~

~~(b) The applicant must show hardship for the Departure and show any techniques being provided to accommodate the initial requirements.~~

~~(c) If the departure is a result of a denied request for alternative compliance, then the request for the alternative~~

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~~compliance and the response letter from the agent shall be submitted with the application.~~

~~(d) Except for provisions of paragraph (f) below, the decision of the application shall be determined after a public hearing by the Planning Commission is held.~~

~~(e) An appeal of the decision of the Planning Commission shall be submitted to the Board of Supervisors.~~

~~(f) If a departure is requested for Section 110.3, Transitional Buffer and the adjacent property is of the same zoning district, then the agent may approve a departure provided a notarized letter of consent is obtained from the owner of the adjacent property and submitted with the request for the departure. If the agent decides not to make a decision on the departure, the request shall be submitted to the Planning Commission as stated in paragraph (d) above for a decision.~~

(a) The application and associated fees for Departure from Design Standards shall be submitted to the Department of Planning and Zoning and shall include any required analysis.

(b) The applicant shall show hardship for the Departure and show any techniques being provided to accommodate the initial requirements **to the maximum extent practical.**

(c) If the departure is a result of a denied request for an alternative compliance, the request for the alternative compliance and the response letter from the Agent shall be submitted with the application.

(d) The decision of the application shall be determined after a public hearing by the Planning Commission is completed.

(e) An appeal of the decision of the Planning Commission shall be submitted to the Board of Supervisors.

Part 2

Construction Standards

Section 150. Purpose

The purpose of this document is to set forth provisions and regulations for construction standards of landscaping, buffering and screening within Stafford County upon new and/or existing development that requires such action.

Section 151. Installation and Maintenance Criteria

- (A) All required landscaping shall be installed and maintained in a sound, workmanship-like manner and according to accepted, good planting practices and procedures with the quality of plant materials as described in the most recent edition of the *Standardized Landscape Specifications for the Commonwealth of Virginia* published by the Virginia Nursery and Landscape Association (VNLA), available for reference in the Stafford County Department of Planning and Zoning & Community Development, unless or in addition to requirements set forth within this document.
1. Except for single-family detached residential uses, a ~~performance bond~~ security shall be posted to ensure replacement of plant material based on the guidelines found in the *Standardized Landscape Specifications for the Commonwealth of Virginia - Part 1-1.06*.
 2. Except under certain circumstances that must be approved by the Stafford County Department of Planning and Zoning, & Community Development and the Department of Public Works ~~Director or his/her designee~~, reductions of any landscape ~~performance bonds~~ securities ~~will~~ shall not be granted.

Section 152. Plant Type, Size and Characteristics

- ~~(A)~~ (A) All required landscaping shall be of the types and minimum sizes set forth in ~~this Section the DCSL.~~ (See [Section 300. References, for acceptable plant species.](#) Table 3 for a complete list of approved Stafford County plant species [References](#))
- (B) For project sites that are equal to or less than twenty (20) acres, there shall be no more than 15 individuals of any one species of large tree, understory tree, and shrub.
- (C) For project sites greater than twenty (20) acres, the total number of individuals of large trees, understory trees, and shrubs shall each have no more than ten percent (10%) of
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- any one species, no more than twenty percent (20%) of any one genus, and no more than thirty percent (30%) of any one family.
1. CanopyLarge trees shall have a minimum caliper of three (3) inches and shall be a minimum of twelve (12) feet in height above the highest root at the time of planting.

~~a. When more than ten (10) canopy trees are required for a development. Two (2) or more species shall be selected within Table 3 to reduce the potential for infection of trees.~~

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2. Evergreen trees shall have a minimum caliper of two (2) inches and shall be a minimum of six (6) feet in height above the highest root at the time of planting.
3. Understory trees shall be a minimum of six (6) feet in height above the highest root at the time of planting.

~~a. When more than ten (10) understory trees are required for a development. Two (2) or more species shall be selected within Table 3 to reduce the potential for infection of trees.~~

4. **Large s**hrubs shall be a minimum of two and one-half (2½) feet in height above the highest root at the time of planting and nursery grown in a minimum five-(5) gallon container.

~~a. When more than ten (10) shrubs are required for a development. Two (2) or more species shall be selected within Table 3 to reduce the potential for infection of shrubs.~~

5. **Small shrubs and ornamental grasses shall be a minimum of six (6) inches in height above the highest root at the time of planting and nursery grown in a minimum one-(1) gallon container.**

Section 1532.1 Landscape Notes

The following landscape notes shall be required and embedded in all landscape plans prior to approval.

- 1) Contractor shall furnish and install all plants as shown on the approved landscape plan, in accordance with the type, sizes, quantities, and specifications listed in the plant schedule.
- 2) Total number of plants shall be drawn on the landscape plan. If the actual total is different from the approved landscape plan, the Contractor shall notify the Owner and/or Owners Representative and approved by The County.
- 3) All plants shall be nursery grown and shall be hardy under climate conditions in the locality of the project.
- 4) Plant dimensions shall be in accordance with the most recent edition of the *Standardized Landscape Specifications for the Commonwealth of Virginia*, which references the American Standard for Nursery Stock (ASNS).
- 5) Balled and burlapped plants shall be dug with firm, natural balls of earth and shall be pruned, stored, and dug in accordance with current ASNS standards. No balled and burlapped plants shall be planted if the ball is either cracked or broken during the process of planting.

- 6) All plants shall have a normal habit of growth and shall be sound, healthy, vigorous, well rooted, and free from disease and insect infestation. Any tree with weak, thin trunks not capable of supporting itself will not be acceptable. The minimum acceptable size of all plants measured before pruning with the branches in normal position shall conform to dimensions as shown on the approved landscape plan. Larger plants of equal quality may be accepted at no additional cost to the Owner.
- 7) Substitution of plants shall not be permitted unless authorized by the Owner and/or Owner's Representative and approved by the County.
- 8) The Contractor shall lay out, with identifiable stakes, the location of all trees, outlines of planting beds, and underground utilities as indicated on the approved landscape plan. In the event that rock, utility lines, or any underground obstructions are encountered during these operations, or in the excavation of any plant pits, alternate locations may be selected by the Owner and/or Owner's Representative and approved by County with no additional cost to the Owner.
- 9) Planting soil shall be _____.
- 10) Mulch shall be applied immediately after planting operations. Mulch shall be _____, free of debris, weeds, spores or other foreign material, well rotted and of such character as to not be easily removed by the elements.
- 11) Prior to installation, the Contractor shall notify the Owner and/or Owners Representative of all soil or drainage conditions that are detrimental to the growth of plants. The Contractor shall state the conditions and submit a proposal, in writing, correcting the conditions, including any change in cost, for review and acceptance by the Owner.
- 12) A container grown plant shall be defined as a plant transplanted into a container and grown in that container sufficiently long for the new fibrous roots to have developed so that the container mass will retain its shape and hold together when removed from the container. All container grown plants shall be sound, healthy, vigorous, well rooted, free from disease and insect infestation, and established in the container in which they are sold. They shall have tops that are of good quality and are in healthy condition. No root bound container grown plants will be permitted. No container grown plant shall be planted if the root mass is broken either before or during the process of planting.
- 13) All plant pits shall be circular in outline. All excavations shall have vertical sides. The depths and widths for excavation of plant pits shall be the depths and widths as specified in the landscape plan. Loosen subgrade 6" below bottom of the pit. Subgrade soils shall be separated from the upper topsoil portions and removed immediately wherever encountered during planting operations. Excess soils shall be removed and legally disposed.
- 14) In general, set plants at same relation to finished grade as the bore to the ground from which they were dug. Prepare planting pits as specified and as shown on the landscape plan, prior to inserting plants. Use topsoil mixture to backfill approximately 2/3 full. Water thoroughly before installing

- remainder of the soil to the top of the pit. Set trees plumb and brace rigidly in position until the planting soil has been tamped solidly around the ball and the roots.
- 15) Guying and staking shall be required for all trees in accordance with the landscape plan and must be completed within 24 hours after planting.
- 16) Maintenance of new plants shall consist of pruning, watering, cultivating, weeding, mulching, tightening, and resetting plants to proper grades or upright position. Restoration of the planting saucer and furnishing and applying such sprays are necessary to keep the plant free from disease and insect infestation. Maintenance shall be provided until time of provisional acceptance.
- 17) Plantings and planting areas shall be protected at all times against trespassing and damage of any kind for the duration of the maintenance period. If any plants become damaged, they shall be treated or replaced by the Contractor at no additional cost to the Owner. No work shall be done within, adjacent to, or over any plant or planting area without proper safeguards and protection.
- 18) All plants shall be guaranteed by the Contractor for a period of one year from the date of provisional acceptance. The Contractor shall provide, in writing, specific maintenance recommendations to the Owner for all plants to remain in good, healthy, and flourishing condition.
- 19) For plants that have been properly maintained by the Owner during the one-year guarantee period, the Contractor shall replace, without cost to the Owner, all dead or severely damaged plants as determined by a certified agent. The replacement plants shall be sound, healthy, vigorous, well rooted, free from disease and insect infestation, and shall closely match surrounding plants of the same size and species. Requirements shall be subject to all requirements stated in this specification.
- 20) The guarantee of all replacement plants shall extend for an additional period of one year from the date of their acceptance after replacement. In the event that a replacement is not acceptable during or at the end of the said extended guarantee period, the Owner may elect a substitution or a credit for each item.
- 21) No plants shall impede the sight distance for ingress & egress to the site.
- 22) Performance bond may be required by Stafford County [Ord. 28-86(C)(5)].

Section 15~~4~~3. Sample Planting Schedules

Landscape plans ~~should~~ shall include all applicable schedules selected from those shown below to document required and proposed quantities for all items required by this document.

Sample Schedule for Section 110.1 & 110.2

Street Buffers adjacent to Freeway/Interstate & Arterial/Collector Streets

(Separate Schedules are required for each type of Street Buffer)

Variables:

1. **Residential or Non-Residential** (circle one)
2. Street Buffer required: **Freeway/Interstate or Arterial/Collector** (circle one)
3. Linear feet of buffer yard along Freeway/Interstate or Arterial/Collector Street: _____ feet
4. Plant units required per Section 110.1 or 110.2: _____ p.u. / 100 linear feet
5. Plant units required within entire buffer yard: $(\#3^* \times \#4^*) / 100 =$ _____ p.u.
5a. Sec. 110.0 h. – Optional plant unit reduction with 5 ft. berm/8 ft wall: $(\#5 / 2) =$ _____ p.u.
6. Existing plant units receiving credit per Sec. 140: _____ p.u.
7. **Total Plant Units required in buffer yard: (#5 or #5A) - #6 =** _____ **p.u.**
8. Proposed percentage of large evergreen trees (minimum 20%) = _____ %
9. Proposed percentage of understory evergreen trees (minimum 20%) = _____ %
10. Proposed percentage of evergreen shrubs (minimum 25%) = _____ %

Calculation of Individuals Required: (percentages are expressed in decimal format)

Individuals Proposed:

- | | |
|--------------------------------------------------------------------------------------------------|--------------------------------|
| A. Large Deciduous Tree: $(1 - \#8^*) \times (0.5 \times \#7^*) =$ _____ p.u. | _____ plants x 10 = _____ p.u. |
| B. Large Evergreen Tree: $\#8^* \times (0.5 \times \#7^*) =$ _____ p.u. | _____ plants x 10 = _____ p.u. |
| C. Deciduous Understory Tree: $(1 - \#9^*) \times (0.3 \times \#7^*) =$ _____ p.u. | _____ plants x 7 = _____ p.u. |
| D. Evergreen Understory Tree: $\#9^* \times (0.3 \times \#7^*) =$ _____ p.u. | _____ plants x 7 = _____ p.u. |
| E. Deciduous Large Shrub: $(1 - \#10^*) \times (0.1 \times \#7^*) =$ _____ p.u. | _____ plants x 3 = _____ p.u. |
| F. Evergreen Large Shrub: $\#10^* \times (0.1 \times \#7^*) =$ _____ p.u. | _____ plants x 3 = _____ p.u. |
| G. Deciduous Small Shrub/Ornamental Grass: $(1 - \#10^*) \times (0.1 \times \#7^*) =$ _____ p.u. | _____ plants = _____ p.u. |
| H. Evergreen Small Shrub: $\#10^* \times (0.1 \times \#7^*) =$ _____ p.u. | _____ plants = _____ p.u. |
| I. <u>Total Plant Units proposed:</u> | _____ <u>p.u</u> |

Notes:

- (1) * - Refers to corresponding "Variables" line items.
- (2) Plant unit (p.u.) calculation results shall be rounded up to the next whole number.
- (3) The "Total Plant Units proposed" shown on line item I from the above "Calculation of Individuals Required" shall be equal to or greater than line item #7 from the above "Variables".

Sample Schedule for Section 110.3

Transitional Buffers

(Separate Schedules are required for each type of Transitional Buffer)

Variables:

1. Proposed Use per Table 2: Number: _____ Use: _____
2. Adjacent property which requires a Transitional Buffer: **N S E** or **W** (circle one)
3. Adjacent property use per Table 2: Number: _____ Use: _____
4. Transitional Buffer required per Table 2: **A B** or **C** (circle one)
5. Linear feet of buffer yard required along property line: _____ feet
6. Plant units required: _____ p.u. / 100 linear feet.
7. Plant units required within entire buffer yard: $(\#5^* \times \#6^*) / 100 =$ _____ p.u.
 7a. Sec. 110.0 h. – Optional plant unit reduction with 5 ft berm/8 ft wall: $(\#7 / 2) =$ _____ p.u.
 7b. Sec. 110.0 j. – Optional plant unit reduction with 6 ft fence: $(\#7 / 2) =$ _____ p.u.
8. Existing plant units receiving credit per Sec. 140: _____ p.u.
9. **Total Plant Units required in buffer yard: (**#7, #7A, or #7B**) - #8 = _____ p.u.**
10. Proposed percentage of large evergreen trees (minimum 20%) = _____ %
11. Proposed percentage of understory evergreen trees (minimum 20%) = _____ %
12. Proposed percentage of evergreen shrubs (minimum 25%) = _____ %

Calculation of Individuals Required: (percentages are expressed in decimal format)

Individuals Proposed:

- | | |
|--------------------------------------------------------------------------------------------------|--------------------------------|
| A. Large Deciduous Tree: $(1 - \#10^*) \times (0.5 \times \#9^*) =$ _____ p.u. | _____ plants x 10 = _____ p.u. |
| B. Large Evergreen Tree: $\#10^* \times (0.5 \times \#9^*) =$ _____ p.u. | _____ plants x 10 = _____ p.u. |
| C. Deciduous Understory Tree: $(1 - \#11^*) \times (0.3 \times \#9^*) =$ _____ p.u. | _____ plants x 7 = _____ p.u. |
| D. Evergreen Understory Tree: $\#11^* \times (0.3 \times \#9^*) =$ _____ p.u. | _____ plants x 7 = _____ p.u. |
| E. Deciduous Large Shrub: $(1 - \#12^*) \times 0.1 \times \#9^*) =$ _____ p.u. | _____ plants x 3 = _____ p.u. |
| F. Evergreen Large Shrub: $\#12^* \times (0.1 \times \#9^*) =$ _____ p.u. | _____ plants x 3 = _____ p.u. |
| G. Deciduous Small Shrub/Ornamental Grass: $(1 - \#12^*) \times (0.1 \times \#9^*) =$ _____ p.u. | _____ plants = _____ p.u. |
| H. Evergreen Small Shrub: $\#12^* \times (0.1 \times \#9^*) =$ _____ p.u. | _____ plants = _____ p.u. |
| I. Total Plant Units proposed: | _____ p.u. |

Notes:

- (1) * - Refers to corresponding "Variables" line items.

- (2) Plant unit (p.u.) calculation results shall be rounded up to the next whole number.
- (3) The "Total Plant Units proposed" shown on line item I from the above "Calculation of Individuals Required" shall be equal to or greater than line item #9 from the above "Variables".

Sample Schedule for Section 120.1

Parking Lot, Interior

Variables:

- 1. Total square footage of parking lot: _____ sq. feet
- 2. Minimum planting area required: (#1* x 0.05) = _____ sq. feet
- 3. Additional square footage required to meet landscape island spacing/placement: _____ sq. feet
- 4. Amount of planting area utilizing IMP: _____ sq. feet

- 5. **Total Planting Area required: (#2 + #3*) - #4* = _____ sq. feet**

- 6. **Total Plant Units required: (#5 / 150) x 12 = _____ p.u.**
 - 6a. **Total Trees required: (#5 / 150) = _____ trees (minimum 1 tree/ 150 sq. ft. planting area)**

Calculation of Individuals: *(percentages are expressed in decimal format)*

- A. Number of Proposed Large Deciduous Trees: _____ (plants) x 10 = _____ p.u.
- B. Number of Proposed Large Evergreen Trees: _____ (plants) x 10 = _____ p.u.
- C. Number of Proposed Understory Trees: _____ (plants)
 - 1) Number of Deciduous Understory Trees Required: (C x 0.8) = _____ (plants) x 7 = _____ p.u.
 - 2) Number of Evergreen Understory Trees Required: (C x 0.2) = _____ (plants) x 7 = _____ p.u.
- D. Number of Proposed Large Shrubs: _____ (plants)
 - 1) Number of Deciduous Large Shrubs Required: (D x 0.8) = _____ (plants) x 3 = _____ p.u.
 - 2) Number of Evergreen Large Shrubs Required: (D x 0.2) = _____ (plants) x 3 = _____ p.u.
- E. Number of Proposed Small Shrubs/Ornamental Grasses: _____ (plants)
 - 1) Number of Deciduous Small Shrubs/Ornamental Grasses Required: (E x 0.8) = _____ (plants) = _____ p.u.
 - 2) Number of Evergreen Small Shrubs Required: (E x 0.2) = _____ (plants) = _____ p.u.

- F. **Total Plant Units proposed: _____ p.u.**

Notes:

- (1) * - Refers to corresponding "Variables" line items.
- (2) Plant unit (p.u.) calculation results shall be rounded up to the next whole number.
- (3) The "Total Plant Units proposed" shown on line item F from the above "Calculation of Individuals" shall be equal to or greater than line item #6 from the above "Variables".

Sample Schedule for Section 120.2

Parking Lot, Perimeter

Variables:

1. Total linear feet of parking lot perimeter: _____ feet
2. Linear feet of parking lot perimeter used for vehicular access: _____ feet
3. Linear feet of parking lot perimeter utilizing IMP: _____ feet
4. **Net Linear Feet of Parking Lot Perimeter: (#1* - #2*) - #3* = _____ feet**
5. **Total Plant Units required: (#4 / 100) x 35 = _____ p.u.**

Calculation of Individuals: *(percentages are expressed in decimal format)*

- A. Number of Proposed Large Deciduous Trees: _____ (plants) x 10 = _____ p.u.
- B. Number of Proposed Large Evergreen Trees: _____ (plants) x 10 = _____ p.u.
- C. Number of Proposed Understory Trees: _____ (plants)
 - 1) Number of Deciduous Understory Trees Required: (C x 0.8) = _____ (plants) x 7 = _____ p.u.
 - 2) Number of Evergreen Understory Trees Required: (C x 0.2) = _____ (plants) x 7 = _____ p.u.
- D. Number of Proposed Large Shrubs: _____ (plants)
 - 1) Number of Deciduous Large Shrubs Required: (D x 0.8) = _____ (plants) x 3 = _____ p.u.
 - 2) Number of Evergreen Large Shrubs Required: (D x 0.2) = _____ (plants) x 3 = _____ p.u.
- E. Number of Proposed Small Shrubs/Ornamental Grasses: _____ (plants)
 - 1) Number of Deciduous Small Shrubs/Ornamental Grasses Required: (E x 0.8) = _____ (plants) = _____ p.u.
 - 2) Number of Evergreen Small Shrubs Required: (E x 0.2) = _____ (plants) = _____ p.u.
- F. **Total Plant Units proposed: _____ p.u.**

Notes:

- (1) * - Refers to corresponding "Variables" line items.
- (2) Plant unit (p.u.) calculation results shall be rounded up to the next whole number.
- (3) The "Total Plant Units proposed" shown on line item F from the above "Calculation of Individuals" shall be equal to or greater than line item #5 from the above "Variables".

Sample Schedule for Section 120.3

Parking Lot, Vehicle Access Drive

Variables:

1. Total linear feet of vehicle access drive between buffer yard and parking lot: _____ feet (both sides)
2. Linear feet of vehicle access drive utilizing IMP: _____ feet
3. **Net Linear Feet of Vehicle Access Drive: (#1* - #2*) = _____ feet**
4. **Total Plant Units required: (#3 / 100) x 35 = _____ p.u.**

Calculation of Individuals: *(percentages are expressed in decimal format)*

- A. Number of Proposed Large Deciduous Trees: _____ (plants) x 10 = _____ p.u.
- B. Number of Proposed Large Evergreen Trees: _____ (plants) x 10 = _____ p.u.
- C. Number of Proposed Understory Trees: _____ (plants)
 - 1) Number of Deciduous Understory Trees Required: (C x 0.8) = _____ (plants) x 7 = _____ p.u.
 - 2) Number of Evergreen Understory Trees Required: (C x 0.2) = _____ (plants) x 7 = _____ p.u.
- D. Number of Proposed Large Shrubs: _____ (plants)
 - 1) Number of Deciduous Large Shrubs Required: (D x 0.8) = _____ (plants) x 3 = _____ p.u.
 - 2) Number of Evergreen Large Shrubs Required: (D x 0.2) = _____ (plants) x 3 = _____ p.u.
- E. Number of Proposed Small Shrubs/Ornamental Grasses: _____ (plants)
 - 1) Number of Deciduous Small Shrubs/Ornamental Grasses Required: (E x 0.8) = _____ (plants) = _____ p.u.
 - 2) Number of Evergreen Small Shrubs Required: (E x 0.2) = _____ (plants) = _____ p.u.
- F. **Total Plant Units proposed: _____ p.u.**

Notes:

- (1) * - Refers to corresponding "Variables" line items.
- (2) Plant unit (p.u.) calculation results shall be rounded up to the next whole number.

(3) The "Total Plant Units proposed" shown on line item F from the above "Calculation of Individuals" shall be equal to or greater than line item #4 from the above "Variables".

Sample Schedule for Section 120.4

Landscaping, Street Trees – RESIDENTIAL
Single Family Detached

Variables:

1. Total linear feet of street frontage: _____ feet
2. Linear feet of street frontage utilizing IMP: _____ feet
3. **Net Linear Feet of Street Frontage: (#1* - #2*) = _____ feet**
4. Total number of lots proposed: _____ lots
5. Plant Units required (based on net linear street frontage): $(\#3 / 100) \times 10 =$ _____ p.u.
6. Plant Units required (based on total # of lots): $(\#4* \times 10) =$ _____ p.u. (minimum 1 tree / lot)
7. **Total Plant Units required: _____ p.u. (shall be equal to #5 or #6, whichever is greater)**

Calculation of Individuals: (percentages are expressed in decimal format)

- A. Number of Proposed Large Deciduous Trees: _____ (plants) x 10 = _____ p.u.
- B. Number of Proposed Large Evergreen Trees: _____ (plants) x 10 = _____ p.u.
- C. **Total Plant Units proposed: _____ p.u.**

Notes:

- (1) * - Refers to corresponding "Variables" line items.
- (2) Plant unit (p.u.) calculation results shall be rounded up to the next whole number.
- (3) The "Total Plant Units proposed" shown on line item C from the above "Calculation of Individuals" shall be equal to or greater than line item #7 from the above "Variables".

Sample Schedule for Section 120.4

Landscaping, Street Trees – RESIDENTIAL
Single Family Attached / Multi Family

Variables:

1. Total linear feet of street frontage: _____ feet
2. Linear feet of street frontage utilizing IMP: _____ feet

3. **Net Linear Feet of Street Frontage: (#1* - #2*) = _____ feet**

4. **Total Plant Units required: (#3 / 100) x 10 = _____ p.u.**

Calculation of Individuals: (percentages are expressed in decimal format)

- A. Number of Proposed Large Deciduous Trees: _____ (plants) x 10 = _____ p.u.
- B. Number of Proposed Large Evergreen Trees: _____ (plants) x 10 = _____ p.u.
- C. Number of Deciduous Understory Trees: _____ (plants) x 7 = _____ p.u.
- D. Number of Evergreen Understory Trees: _____ (plants) x 7 = _____ p.u.
- E. Number of Deciduous Small Shrubs: _____ (plants) = _____ p.u.
- F. Number of Evergreen Small Shrubs: _____ (plants) = _____ p.u.

- G. **Total Plant Units proposed: _____ p.u.**

Notes:

- (1) * - Refers to corresponding "Variables" line items.
- (2) Plant unit (p.u.) calculation results shall be rounded up to the next whole number.
- (3) The "Total Plant Units proposed" shown on line item G from the above "Calculation of Individuals" shall be equal to or greater than line item #4 from the above "Variables".

Sample Schedule for Section 120.4

Landscaping, Street Trees – NON-RESIDENTIAL

Variables:

1. Total linear feet of street frontage: _____ feet
2. Linear feet of street frontage used for vehicular access: _____ feet
3. Linear feet of street frontage utilizing IMP: _____ feet

4. **Net Linear Feet of Street Frontage: (#1* - #2*) - #3* = _____ feet**

5. **Total Plant Units required: (#4 / 100) x 21 = _____ p.u.**

Calculation of Individuals: *(percentages are expressed in decimal format)*

- A. Number of Proposed Large Deciduous Trees: _____ (plants) x 10 = _____ p.u.
- B. Number of Proposed Large Evergreen Trees: _____ (plants) x 10 = _____ p.u.
- C. Number of Proposed Understory Trees: _____ (plants)
 - 1) Number of Deciduous Understory Trees Required: (C x 0.8) = _____ (plants) x 7 = _____ p.u.
 - 2) Number of Evergreen Understory Trees Required: (C x 0.2) = _____ (plants) x 7 = _____ p.u.
- D. Number of Proposed Large Shrubs: _____ (plants)
 - 1) Number of Deciduous Large Shrubs Required: (D x 0.8) = _____ (plants) x 3 = _____ p.u.
 - 2) Number of Evergreen Large Shrubs Required: (D x 0.2) = _____ (plants) x 3 = _____ p.u.
- E. Number of Proposed Small Shrubs/Ornamental Grasses: _____ (plants)
 - 1) Number of Deciduous Small Shrubs/Ornamental Grasses Required: (E x 0.8) = _____ (plants) = _____ p.u.
 - 2) Number of Evergreen Small Shrubs Required: (E x 0.2) = _____ (plants) = _____ p.u.

- F. **Total Plant Units proposed: _____ p.u.**

Notes:

- (1) * - Refers to corresponding "Variables" line items.
- (2) Plant unit (p.u.) calculation results shall be rounded up to the next whole number.
- (3) The "Total Plant Units proposed" shown on line item F from the above "Calculation of Individuals" shall be equal to or greater than line item #5 from the above "Variables".

Sample Schedule for Section 140.

Credits

1. Buffer yard or area receiving credit: _____
2. Total Plant Units required: _____ p.u. *(as shown on applicable planting schedule)*

3. Number of trees between 4" & 6" DBH: _____ x 10 = _____ p.u.
4. Number of trees between 7" & 12" DBH: _____ x 15 = _____ p.u.
5. Number of trees between 13" & 17" DBH: _____ x 20 = _____ p.u.
6. Number of trees between 18" & 24" DBH: _____ x 25 = _____ p.u.
7. Number of trees 25" DBH or greater: _____ x 30 = _____ p.u.

8. **Total Plant Units receiving credit :** _____ **p.u.**

Sample Schedule for Section 110.1 & 110.2 120.4

Street Buffers along Freeway/Interstate & Arterial/Collector Streets

Variables:

1. Residential or non-residential: (circle one)
2. Buffer yard with: _____ feet
- 32 Linear feet of landscape strip along Interstate or Arterial/ Collector Street: _____ feet
- 43 Plant unit required as per Section 110.1: _____ p.u. / 100 linear feet
- 4 Plant units required within entire buffer ($\#2^* \times \#3^*$) / 100 = _____ p.u.
- 4A Sec. 110 h. Optional plant unit reduction using a 5 ft. berm/8 ft. wall ($\#4 / 2$) = _____ p.u.
- 5 Existing plant units getting credit per Section 140: _____ p.u.
6. Plant units required in buffer yard: _____
7. Number of canopy trees provided: _____ x 10 p.u. = _____ p.u.
Number of understory trees provided: _____ x 7 p.u. = _____ p.u.
Number of evergreen trees provided: _____ x 7 p.u. = _____ p.u.
Number of shrubs provided: _____ x 1 p.u. = _____ p.u.
8. Total number of plant units provided in buffer yard: _____

6. Final Plant Units required in landscape strip ($\#4^*$ or $\#4A^*$) - $\#5^*$ = total _____ p.u.

- 7 Proposed percent of large evergreen trees (minimum: 20%) = _____ %
- 8 Proposed percent of understory evergreen trees (minimum: 20%) = _____ %
- 9 Proposed percent of evergreen shrubs (minimum: 25%) = _____ %

Calculation of Individuals required:

- _____ (A) Large Deciduous Tree: $(1 - \#7^*) \times (0.5 \times \#6^*) / 10 =$ _____ plants
- _____ (B) Large Evergreen Tree: $\#7^* \times (0.5 \times \#6^*) / 10 =$ _____ plants
- _____ (C) Deciduous Understory Tree: $(1 - \#8^*) \times (0.3 \times \#6^*) / 7 =$ _____ plants
- _____ (D) Evergreen Understory Tree: $\#8^* \times (0.3 \times \#6^*) / 7 =$ _____ plants
- _____ (E) Deciduous Large Shrub: $(1 - \#9^*) \times (0.1 \times \#6^*) / 3 =$ _____ plants
- _____ (F) Evergreen Large Shrub: $(\#9^*) \times (0.1 \times \#6^*) / 3 =$ _____ plants
- _____ (G) Deciduous Small Shrub: $(1 - \#9^*) \times (0.1 \times \#6^*) =$ _____ plants
- _____ (H) Evergreen Small Shrub: $(\#9^*) \times (0.1 \times \#6^*) =$ _____ plants

*** - Refers to corresponding "Variables" line items**

Sample Schedule for Section 110.2

Transitional Buffer

(Separate Schedule needed for each type of Transitional Buffer required)

Variables

1. Proposed Use per Table 2; Number _____, Use _____
2. Adjacent property which requires buffer; N, S, E or W: (circle one)
3. Adjacent property use per Table 2; Number _____, Use _____
4. Transitional Buffer required per Table 2; A, B or C: (circle one)
5. Linear feet of buffer yard required along property line: _____ feet
6. Plant units required: _____ p.u./100 ft.
7. Existing plant units getting credit per Section 140: _____ p.u.

8. **Final Plant Units required in buffer yard (#7 - #8): _____ p.u. (if using optional reductions Sec. 110.0 h., 110.0 j, or both: reduce the plant units accordingly and indicate which option(s) is being proposed here: _____).**

9. Proposed percent of large evergreen trees (minimum: 20%) = _____ %
10. Proposed percent of understory evergreen trees (minimum: 20%) = _____ %
11. Proposed percent of evergreen shrubs (minimum: 25%) = _____ %

Calculation of Individuals required:

- (A) Large Deciduous Tree: $(1 - \#9^*) \times (0.5 \times \#8^*) / 10 =$ _____ plants
- (B) Large Evergreen Tree: $\#9^* \times (0.5 \times \#8^*) / 10 =$ _____ plants
- (C) Deciduous Understory Tree: $(1 - \#10^*) \times (0.3 \times \#8^*) / 7 =$ _____ plants
- (D) Evergreen Understory Tree: $\#10^* \times (0.3 \times \#8^*) / 7 =$ _____ plants
- (E) Deciduous Large Shrub: $(1 - \#11^*) \times (0.1 \times \#8^*) / 3 =$ _____ plants
- (F) Evergreen Large Shrub: $(\#11^*) \times (0.1 \times \#8^*) / 3 =$ _____ plants
- (G) Deciduous Small Shrub: $(1 - \#11^*) \times (0.1 \times \#8^*) =$ _____ plants
- (H) Evergreen Small Shrub: $(\#11^*) \times (0.1 \times \#8^*) =$ _____ plants

*** - Refers to corresponding "Variables" line items**

Sample Schedule for Section 110.3

Transitional Buffer

(Separate Schedule needed for each type of Transitional Buffer required)

Variables

- 12. Proposed Use per Table 2; Number ____ Use _____
- 13. Adjacent property which requires buffer; N, S, E or W: (circle one)
- 14. Adjacent property use per Table 2: Number ____, Use _____
- 15. Transitional Buffer required per Table 2; A, B or C: (circle one)
- 16. Buffer yard width: _____ feet
- 17. Linear feet of buffer yard required along property line: _____ feet
- 18. Plant units required: _____ p.u./100 ft.
- 19. Existing plant units getting credit per Section 140: _____ p.u.
- 20. **Final Plant Units required in buffer yard (#7 - #8): _____ p.u. (if using optional reductions Sec. 110.0 h., 110.0 i, or both: reduce the plant units accordingly and indicate which option(s) is being proposed here: _____).**
- Proposed percent of large evergreen trees (minimum: 20%) = _____%
- Proposed percent of understory evergreen trees (minimum: 20%) = _____%
- Proposed percent of evergreen shrubs (minimum: 25%) = _____%

Calculation of Individuals required:

- ____ (A). Large Deciduous Tree: $(1 - \#9^*) \times (0.5 \times \#8^*) / 10 =$ _____ plants
- ____ (B). Large Evergreen Tree: $\#9^* \times (0.5 \times \#8^*) / 10 =$ _____ plants
- ____ (C). Deciduous Understory Tree: $(1 - \#10^*) \times (0.3 \times \#8^*) / 7 =$ _____ plants
- ____ (D). Evergreen Understory Tree: $\#10^* \times (0.3 \times \#8^*) / 7 =$ _____ plants
- ____ (E). Deciduous Large Shrub: $(1 - \#11^*) \times (0.1 \times \#8^*) / 3 =$ _____ plants
- ____ (F). Evergreen Large Shrub: $(\#11^*) \times (0.1 \times \#8^*) / 3 =$ _____ plants
- ____ (G). Deciduous Small Shrub: $(1 - \#11^*) \times (0.1 \times \#8^*) =$ _____ plants
- ____ (H). Evergreen Small Shrub: $(\#11^*) \times (0.1 \times \#8^*) =$ _____ plants

* - Refers to corresponding "Variables" line items

- 21. Number of canopy trees provided: _____ x 10 p.u. = _____ p.u.
- Number of understory trees provided: _____ x 7 p.u. = _____ p.u.
- Number of evergreen trees provided: _____ x 7 p.u. = _____ p.u.
- Number of shrubs provided: _____ x 1 p.u. = _____ p.u.
- 11. Total number of plant units provided in buffer yard: _____

[AGT13]

Sample Schedule for Section 120.1

Parking Lot, Interior

Variables:

1. ~~Number of parking spaces: _____ x 30 45 = _____ square foot planting area~~
2. ~~Amount of planting area utilizing LID: _____ sq. ft.~~
3. ~~Amount of planting area requiring landscaping: _____ sq. ft.~~
4. ~~Total plant units required (#3 / 300 x 12): _____ p.u.~~

Proposed number of individuals:

- ~~Total # of Proposed Canopy Trees: _____ (plants) x 10 = _____ p. u.~~
- ~~Total # of Proposed Understory Trees: _____ (plants) x 7 = _____ p.u.~~
- ~~A). # of Deciduous Understory Trees Required: (#2* - (#2* x 0.2)) = _____ (plants) x 7 = _____ p.u.~~
- ~~B). # of Evergreen Understory Trees Required: #2* x 0.2 = _____ (plants) x 7 = _____ p.u.~~
- ~~Total # of Proposed Large Shrubs: _____ (plants) x 3 = _____ p.u.~~
- ~~A). # of Deciduous Large Shrubs Required: (#3* - (#3* x 0.2)) = _____ (plants) x 3 = _____ p.u.~~
- ~~B). # of Evergreen Large Shrubs Required: #3* x 0.2 = _____ (plants) x 3 = _____ p.u.~~
- ~~Total # of Proposed Small Shrubs: _____ (plants) = _____ p. u.~~
- ~~A). # of Deciduous Small Shrubs Required: (#4* - (#4 x 0.2)) = _____ (plants) = _____ p.u.~~
- ~~B). # of Evergreen Small Shrubs Required: #4* x 0.2 = _____ (plants) = _____ p.u.~~

Notes:

- ~~* Refers to corresponding "Proposed number of individuals" line items~~
 - ~~Calculation results should be rounded to the nearest whole number.~~
 - ~~The sum of Plant Units (p.u.) of 1; 2A and B; 3A and B; and 4A and B of the above "Proposed number of individuals" shall equal Line Item #4 of the "Variables".~~
5. ~~Number of canopy trees provided: _____ x 10 p.u. = _____ p.u.~~
~~Number of understory trees provided: _____ x 7 p.u. = _____ p.u.~~
~~Number of evergreen trees provided: _____ x 7 p.u. = _____ p.u.~~
~~Number of shrubs provided: _____ x 1 p.u. = _____ p.u.~~
 6. ~~Total number of plant units provided in planting area: _____~~

Sample Schedule for Section 120.2

Parking Lot, Perimeter

Variables

- 1. _____ Linear feet of parking lot perimeter adjacent to property line(s): _____ feet
- 2. _____ Net linear feet per Section 200, Definitions: _____ feet
- 3. _____ Total plant units required ($\#2/100 \times 35$): _____ p.u.

Proposed number of individuals:

- _____ Total # of Proposed Canopy Trees: _____ (plants) x 10 = _____ p. u.
- Total # of Proposed Understory Trees: _____ (plants) x 7 = _____ p.u.
- A). # of Deciduous Understory Trees Required: ($\#2^* - (\#2^* \times 0.2)$) = _____ (plants) x 7 = _____ p.u.
- B). # of Evergreen Understory Trees Required: $\#2^* \times 0.2 =$ _____ (plants) x 7 = _____ p.u.
- _____ Total # of Proposed Large Shrubs: _____ (plants) x 3 = _____ p.u.
- A). # of Deciduous Large Shrubs Required: ($\#3^* - (\#3^* \times 0.2)$) = _____ (plants) x 3 = _____ p.u.
- B). # of Evergreen Large Shrubs Required: $\#3^* \times 0.2 =$ _____ (plants) x 3 = _____ p.u.
- _____ Total # of Proposed Small Shrubs: _____ (plants) = _____ p. u.
- A). # of Deciduous Small Shrubs Required: ($\#4^* - (\#4 \times 0.2)$) = _____ (plants) = _____ p.u.
- B). # of Evergreen Small Shrubs Required: $\#4^* \times 0.2 =$ _____ (plants) = _____ p.u.

Notes:

- _____ * Refers to corresponding "Proposed number of individuals" line items
- _____ Calculation results should be rounded to the nearest whole number.
- _____ The sum of Plant Units (p.u.) of 1; 2A and B; 3A and B; and 4A and B of the above "Proposed number of individuals" shall equal Line Item #4 of the "Variables".

- 4. _____ Number of canopy trees provided: _____ x 10 p.u. = _____ p.u
- Number of understory trees provided: _____ x 7 p.u. = _____ p.u.
- Number of evergreen trees provided: _____ x 7 p.u. = _____ p.u.
- Number of shrubs provided: _____ x 1 p.u. = _____ p.u.
- 5. _____ Total number of plant units provided in planting area: _____

Sample Schedule for Section 120.3

Parking Lot, Vehicle Access Drive

1. Linear feet of the vehicle access drive to the parking lot : _____ feet
2. Net linear feet per Section 200, Definitions: _____ feet
3. Total plant units required (#2/100 x 35): _____

Proposed number of individuals:

- Total # of Proposed Canopy Trees: _____ (plants) x 10 = _____ p. u.
- Total # of Proposed Understory Trees: _____ (plants) x 7 = _____ p.u.
- A). # of Deciduous Understory Trees Required: (#2* - (#2* x 0.2)) = _____ (plants) x 7 = _____ p.u.
- B). # of Evergreen Understory Trees Required: #2* x 0.2 = _____ (plants) x 7 = _____ p.u.
- Total # of Proposed Large Shrubs: _____ (plants) x 3 = _____ p.u.
- A). # of Deciduous Large Shrubs Required: (#3* - (#3* x 0.2)) = _____ (plants) x 3 = _____ p.u.
- B). # of Evergreen Large Shrubs Required: #3* x 0.2 = _____ (plants) x 3 = _____ p.u.
- Total # of Proposed Small Shrubs: _____ (plants) = _____ p. u.
- A). # of Deciduous Small Shrubs Required: (#4* - (#4 x 0.2)) = _____ (plants) = _____ p.u.
- B). # of Evergreen Small Shrubs Required: #4* x 0.2 = _____ (plants) = _____ p.u.

Notes:

- * Refers to corresponding “Proposed number of individuals” line items
- Calculation results should be rounded to the nearest whole number.
- The sum of Plant Units (p.u.) of 1; 2A and B; 3A and B; and 4A and B of the above “Proposed number of individuals” shall equal Line Item #4 of the “Variables”.

4. Number of canopy trees provided: _____ x 10 p.u. = _____ p.u.
- Number of understory trees provided: _____ x 7 p.u. = _____ p.u.
- Number of evergreen trees provided: _____ x 7 p.u. = _____ p.u.
- Number of shrubs provided: _____ x 1 p.u. = _____ p.u.
-
- 5. Total number of plant units provided in planting area: _____
-

Sample Schedule for Section 120.4

Landscaping, Street trees—RESIDENTIAL

1. Linear feet of street frontage: _____ feet
2. Net linear feet per Section 200, Definitions: _____ feet
3. Total plant units required (#2/100 x 10): _____

4. Number of canopy trees provided: _____ x 10 p.u. = _____ p.u.
Number of understory trees provided: _____ x 7 p.u. = _____ p.u.
Number of evergreen trees provided: _____ x 7 p.u. = _____ p.u.

5. Total number of plant units provided in planting area: _____

Sample Schedule for Section 120.4

Landscaping, Street trees—NON-RESIDENTIAL

1. Linear feet of street frontage: _____ feet
2. Net linear feet per Section 200, Definitions: _____ feet
3. Total plant units required (#2/100 x 50): _____

4. Number of canopy trees provided: _____ x 10 p.u. = _____ p.u.
Number of understory trees provided: _____ x 7 p.u. = _____ p.u.
Number of evergreen trees provided: _____ x 7 p.u. = _____ p.u.
Number of shrubs provided: _____ x 1 p.u. = _____ p.u.

5. Total number of plant units provided in planting area: _____

Sample Schedule for Section 140.

Credits

1. Buffer yard receiving credit: _____
2. Total plant units required for buffer yard: _____ p.u.s

3. Number of trees between 4" & 6" DBH _____ x 10 = _____ p.u.
4. Number of trees between 7" & 12" DBH _____ x 15 = _____ p.u.
5. Number of trees between 13" & 17" DBH _____ x 20 = _____ p.u.
6. Number of trees between 18" & 24" DBH _____ x 25 = _____ p.u.
7. Number of trees 25" DBH or greater _____ x 30 = _____ p.u.

- Total plant units receiving credits = _____ p.u

Section 154. Standard Landscape Notes

Landscape plans shall include the following notes (1-22) embedded in the approved plan:

- 1) Contractor shall furnish and install all plants as shown on the landscape plan, in accordance with the type, sizes, quantities, and specifications listed in the plant schedule.
- 2) Total number of plants shall be drawn on the landscape plan. If the actual total is to differ from the landscape plan, the Contractor is to notify the Owner and/or Owners Representative and approved by the County.
- 3) All plants shall be nursery grown and shall be hardy under climate conditions in the locality of the project.
- 4) Plant dimensions shall be in accordance with the most recent edition of the *Standardized Landscape Specifications for the Commonwealth of Virginia*, which references the American Standard for Nursery Stock (ASNS).
- 5) Balled and burlapped plants shall be dug with firm, natural balls of earth and shall be pruned, stored, and dug in accordance with current ASNS standards. No balled and burlapped plants shall be planted if the ball is either cracked or broken during the process of planting.
- 6) All plants shall have a normal habit of growth and shall be sound, healthy, vigorous, well rooted, and free from disease and insect infestation. Any tree with weak, thin trunks not capable of supporting itself shall not be acceptable. The minimum acceptable size of all plants measured before pruning with the branches in normal position shall conform to dimensions as shown on the approved landscape plan. Larger plants of equal quality may be accepted at no additional cost to the Owner.
- 7) Substitution of plants shall not be permitted unless authorized by the Owner and/or Owner's Representative and approved by the County.
- 8) The Contractor shall lay out, with identifiable stakes, the location of all trees, outlines of planting beds, and underground utilities as indicated on the approved landscape plan. In the event that rock, utility lines, or any underground obstructions are encountered during these operations, or in the excavation of any plant pits, alternate locations may be selected by the Owner and/or Owner's Representative and approved by County Agent with no additional cost to the Owner.
- 9) Planting soil shall be _____.
- 10) Mulch shall be applied immediately after planting operations. Mulch shall be _____, free of debris, weeds, spores or other foreign material, well rotted and of such character as to not be easily removed by the elements.

- 11) Prior to installation, the Contractor shall notify the Owner and/or Owners Representative of all soil or drainage conditions that are detrimental to the growth of plants. The Contractor shall state the conditions and submit a proposal, in writing, correcting the conditions, including any change in cost, for review and acceptance by the Owner.
- 12) A container grown plant shall be defined as a plant transplanted into a container and grown in that container sufficiently long for the new fibrous roots to have developed so that the container mass will retain its shape and hold together when removed from the container. All container grown plants shall be sound, healthy, vigorous, well rooted, free from disease and insect infestation, and established in the container in which they are sold. They shall have tops that are of good quality and are in healthy condition. No root bound container grown plants will be permitted. No container grown plant shall be planted if the root mass is broken either before or during the process of planting.
- 13) All plant pits shall be circular in outline. All excavations shall have vertical sides. The depths and widths for excavation of plant pits shall be the depths and widths as specified in the landscape plan. Loosen subgrade 6" below bottom of the pit. Subgrade soils shall be separated from the upper topsoil portions and removed immediately wherever encountered during planting operations. Excess soils shall be removed and legally disposed.
- 14) In general, set plants at same relation to finished grade as the bore to the ground from which they were dug. Prepare planting pits as specified and as shown on the approved landscape plan, prior to inserting plants. Use topsoil mixture to backfill approximately 2/3 full. Water thoroughly before installing remainder of the soil to the top of the pit. Set trees plumb and brace rigidly in position until the planting soil has been tamped solidly around the ball and the roots.
- 15) Guying and staking shall be required for all trees in accordance with the approved landscape plan and shall be completed within 24 hours after planting.
- 16) Maintenance of new plants shall consist of pruning, watering, cultivating, weeding, mulching, tightening, and resetting plants to proper grades or upright position. Restoration of the planting saucer and furnishing and applying such sprays are necessary to keep the plant free from disease and insect infestation. Maintenance shall be provided until time of provisional acceptance.
- 17) Plantings and planting areas shall be protected at all times against trespassing and damage of any kind for the duration of the maintenance period. If any plants become damaged, they shall be treated or replaced by the Contractor at no additional cost to the Owner. No work shall be done within, adjacent to, or over any plant or planting area without proper safeguards and protection.
- 18) All plants shall be guaranteed by the Contractor for a period of one year from the date of provisional acceptance. The Contractor shall provide, in writing, specific maintenance

recommendations to the Owner for all plants to remain in good, healthy, and flourishing condition.

19) For plants that have been properly maintained by the Owner during the one-year guarantee period, the Contractor shall replace, without cost to the Owner, all dead or severely damaged plants as determined by a certified agent. The replacement plants shall be sound, healthy, vigorous, well rooted, free from disease and insect infestation, and shall closely match surrounding plants of the same size and species. Requirements shall be subject to all requirements stated in this specification.

20) The guarantee of all replacement plants shall extend for an additional period of one year from the date of their acceptance after replacement. In the event that a replacement is not acceptable during or at the end of the said extended guarantee period, the Owner may elect a substitution or a credit for each item.

21) No plants shall impede the sight distance for ingress & egress to the site.

22) Performance bond may be required by Stafford County [Ord. 28-86(C)(5)].

Table 3.0 — List of Permitted Trees and Shrubs

Scientific Name	Common Name	Type	10-Year Spread
<i>Acer rubrum</i>	Red Maple	Canopy	12'-15'
<i>Acer saccharum</i>	Sugar Maple	Canopy	12'-15'
<i>Betula nigra</i>	River Birch	Canopy	13'-16'
<i>Celtis occidentalis</i>	Common Hackberry	Canopy	13'-16'
<i>Fagus grandifolia</i>	American Beech	Canopy	10'-12'
<i>Fagus sylvatica</i>	European Beech	Canopy	10'-12'
<i>Fraxinus pennsylvanica</i>	Green Ash	Canopy	10'-12'
<i>Gleditsia triacanthos inermis</i>	Thornless Honey Locust	Canopy	13'-16'
<i>Liquidambar styraciflua</i>	Sweetgum	Canopy	12'-15'
<i>Liriodendron tulipifera</i>	Tulip Tree	Canopy	12'-15'
<i>Platanus occidentalis</i>	Sycamore	Canopy	16'-18'
<i>Quercus alba</i>	White Oak	Canopy	10'-12'
<i>Quercus coccinea</i>	Scarlet Oak	Canopy	10'-12'
<i>Quercus michauxii</i>	Swamp Chestnut Oak	Canopy	10'-12'
<i>Quercus palustris</i>	Pin Oak	Canopy	12'-15'
<i>Quercus phellos</i>	Willow Oak	Canopy	10'-12'
<i>Quercus rubra</i>	Northern Red Oak	Canopy	12'-15'
<i>Quercus velutina</i>	Black Oak	Canopy	10'-12'
<i>Quercus virginiana</i>	Live Oak	Canopy	10'-12'
<i>Tilia cordata</i>	Littleleaf Linden	Canopy	10'-12'
<i>Cedrus deodara</i>	Deodar Cedar	Evergreen	8'-10'
<i>Cunninghamia lanceolata</i>	China Fir	Evergreen	8'-10'
<i>Cupressocyparis leylandi</i>	Leyland Cypress	Evergreen	8'-10'
<i>Ilex aquifolium</i>	English Holly	Evergreen	4'-6'
<i>Ilex opaca</i>	American Holly	Evergreen	5'-7'
<i>Ilex vomitoria</i>	Yaupon Holly	Evergreen	5'-7'
<i>Ilex x attenuata 'Fosteri'</i>	Foster's Holly	Evergreen	6'-8'
<i>Ilex x 'Nellie R. Stevens'</i>	Nelly R. Stevens Holly	Evergreen	7'-9'
<i>Juniperus virginiana</i>	Eastern Red Cedar	Evergreen	3'-5'
<i>Pinus nigra</i>	Austrian Pine	Evergreen	8'-10'
<i>Pinus strobus</i>	White Pine	Evergreen	10'-12'
<i>Pinus thunbergiana</i>	Japanese Black Pine	Evergreen	8'-10'
<i>Pinus virginiana</i>	Virginia Pine	Evergreen	10'-12'
<i>Thuja occidentalis</i>			
<i>'pyramidalis'</i>	Pyramidal Arborvitae	Evergreen	3'-5'
<i>Thuja orientalis</i>	Oriental Arborvitae	Evergreen	3'-5'
<i>Acer buergerianum</i>	Trident Maple	Understory	8'-10'
<i>Acer palmatum</i>	Japanese Maple	Understory	8'-10'
<i>Amelanchier arborea</i>	Downy Serviceberry	Understory	10'-12'
<i>Cercis canadensis</i>	Redbud	Understory	10'-12'
<i>Chionanthus virginicus</i>	White Fringe Tree	Understory	8'-10'
<i>Cornus florida</i>	Flowering Dogwood	Understory	8'-10'
<i>Cornus kousa</i>	Kousa Dogwood	Understory	10'-12'
<i>Cornus mas</i>	Cornelian Cherry	Understory	6'-8'
<i>Cotinus coggygria</i>	Smoke Tree	Understory	8'-10'
<i>Crataegus phaenopyrum</i>	Winter King Hawthorn	Understory	8'-10'
<i>Franklinia altamaha</i>	Franklin Tree	Understory	8'-10'

<i>Koelreuteria paniculata</i>	Golden Rain Tree	Understory	8'-10'
<i>Lagerstroemia indica</i>	Common Crape Myrtle	Understory	6'-8'
<i>Magnolia stellata</i>	Star Magnolia	Understory	5'-7'
<i>Magnolia virginiana</i>	Sweetbay Magnolia	Understory	8'-10'
<i>Magnolia x soulangiana</i>	Saucer Magnolia	Understory	8'-10'
<i>Prunus cerasifera</i>	Cherry Plum	Understory	8'-10'
	Kwanzan Flowering		
<i>Prunus serrulata</i> 'Kwanzan'	Cherry	Understory	8'-10'
<i>Salix matsudana</i> 'Tortuosa'	Corkscrew Willow	Understory	10'-12'
<i>Sassafras albidum</i>	Common Sassafras	Understory	8'-10'
<i>Abelia grandiflora</i>	Glossy Abelia	Shrub	
<i>Aucuba japonica</i>	Japanese Aucuba	Shrub	
<i>Berberis julianae</i>	Wintergreen Bayberry	Shrub	
<i>Berberis thunbergii</i>	Japanese Bayberry	Shrub	
<i>Buddleia davidii</i>	Butterfly Bush	Shrub	
<i>Buxus sempervirens</i>	American Boxwood	Shrub	
<i>Buxus microphylla japonica</i>	Japanese Boxwood	Shrub	
<i>Calyceanthus floridus</i>	Carolina Allspice	Shrub	
<i>Camellia japonica</i>	Japanese Camellia	Shrub	
<i>Camellia sasanqua</i>	Sasanqua Camellia	Shrub	
<i>Chaenomeles speciosa</i>	Flowering Quince	Shrub	
<i>Clethra alnifolia</i>	Summersweet Clethra	Shrub	
<i>Daphne odora</i>	Winter Daphne	Shrub	
<i>Deutzia gracilis</i>	Slender Deutzia	Shrub	
<i>Euonymus alatus</i>	Burning Bush	Shrub	
<i>Exochorda racemosa</i>	Pearl Bush	Shrub	
<i>Forsythia intermedia</i>	Spring Forsythia	Shrub	
<i>Hammamelis mollis</i>	Chinese Witch Hazel	Shrub	
<i>Hammamelis vernalis</i>	Vernal Witch Hazel	Shrub	
<i>Hydrangea macrophylla</i>	Bigleaf Hydrangea	Shrub	
<i>Hydrangea quercifolia</i>	Oakleaf Hydrangea	Shrub	
<i>Ilex cornuta</i> 'Burfordi'	Burford Holly	Shrub	
<i>Ilex verticillata</i>	Winter Berry	Shrub	
<i>Juniperus chinensis</i>			
<i>pfitzeriana</i>	Pfitzer Juniper	Shrub	
<i>Juniperus chinensis</i> 'Robusta Green'	Robusta Green Juniper	Shrub	
<i>Juniperus horizontalis</i> 'Plumosa'	Andorra Juniper	Shrub	
<i>Ligustrum japonicum</i>	Wax Ligustrum	Shrub	
<i>Ligustrum vicary</i>	Vicary Golden Privet	Shrub	
<i>Mahonia aquifolium</i>	Oregon Grape Holly	Shrub	
<i>Mahonia bealia</i>	Leather Leaf Mahonia	Shrub	
<i>Nandina domestica</i>	Nandina	Shrub	
<i>Piers japonica</i>	Japanese Piers	Shrub	
<i>Pinus mugo</i>	Mugo Pine	Shrub	
<i>Potentilla fruticosa</i>	Bush Conquefoil	Shrub	
<i>Punica granatum</i>	Pomegranate	Shrub	
<i>Pyracantha coccinea</i>	Pyracantha	Shrub	
<i>Raphiolepis umbellata</i>	India Hawthorn	Shrub	
<i>Rhododendron calendulaceum</i>	Flame Azalea	Shrub	
<i>Spirea prunifolia</i>	Bridal Wreath Spirea	Shrub	

<i>Spiraea thunbergi</i>	Thunberg Spirea	Shrub
<i>Syringa persica</i>	Persian Lilac	Shrub
<i>Viburnum carlesii</i>	Fragrant Viburnum	Shrub
	European Highbush	
<i>Viburnum opulus</i>	Cranberry	Shrub
<i>Viburnum rhytidophyllum</i>	Leatherleaf Viburnum	Shrub
<i>Viburnum tomentosum</i>	Doublefile Viburnum	Shrub

~~Design and Construction Standards for Landscaping, Buffering and
Screening (DCSL)~~

~~Stafford County, Virginia~~

SECTION 200

DEFINITIONS

Section 200. Definitions.

Buffer yard— A yard improved with landscaping and screening materials required between different intensities or between adjoining land uses for the purpose of decreasing the potential impact of different uses. The buffer yard is intended to recreate or preserve native woodlands. The buffer yard is also intended to remain free of buildings, or parking areas. The minimum buffer width is generally a uniform width across the entire length of the common property line between lots on which uses are located that require a buffer yard.

Caliper— the diameter measurement of the trunk of trees, taken six (6) inches above ground level up to and including four (4) inch caliper size, and twelve inches above ground level for caliper size in excess of four (4) inches.

CanopyLarge— a type of tree that, under normal growth conditions, will compose the top layer or ***canopylarge*** of vegetation and generally reach a mature height at or above forty (40) feet. A tree that, at the time of planting, is at least twelve (12) feet tall above the highest root, has a minimum caliper of three (3) inches diameter at breast height (DBH), and is one of the species listed in this chapter for ***canopylarge*** trees.

DBH (Diameter at Breast Height)— The level of the tree in which the diameter is measured to determine the caliper.

Evergreen— a type of tree that, under normal growth conditions, will grow to maturity beneath ***canopylarge*** trees and generally reach a mature height between ten (10) and forty (40) feet. Evergreen trees produce vegetation year round and can assist with more efficient screening techniques.

Landscaping— The introduction or selective retention of flourishing trees and shrubs carefully selected and arranged to perform a design purpose or environmental function, such as controlling visual direction, providing definition to architecture, modifying climate, filtering air pollution,

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and controlling runoff and erosion. Trees and shrubs shall be the primary plant materials to apply to the development of the required landscaping and street planting. Street planting may include berms and low walls in conjunctions with trees and shrubs.

Privacy/Opaque Fence— A fence at least six (6) feet in height and does not allow the passage of radiant energy or light for all portions of the fence. Maintenance of the fence shall be in compliance with Section 28-89 of the Zoning Ordinance. Cloth, plastic or other fence covers attached to or inserted within a chain link fence shall not be permitted.

Net linear feet— The amount of linear footage along a street or property line that requires a planting area, not including any area used for vehicular access or LID or any area being saved under

the requirements of Section 140, Credits, of this document. It may include sidewalks and utility easements that cross perpendicular through the landscape strip.

Planting area — Area of the property designated to provide the required planting of this document. It shall not include sidewalks and utility easements parallel to the street or property line for which the planting area is adjacent to.

Plant Units (p.u.) — A specific value assigned to each type of tree or shrub to determine the required amount of buffering or landscaping to be provided or credited within a designated area.

Screening — The method by which a view from one site to an adjacent site is shielded, concealed or hidden. Screening techniques may include, but not limited to: Fences, walls, hedges, berms or other features.

Shrubs — A type of plant with relatively low height, consisting of several stems rather than a main trunk. A plant that, at the time of planting, is at least three (3) feet tall as measured from the highest root, and is one of the species listed in this chapter for shrubs.

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Understory — A type of tree that, under normal growth conditions, will grow to maturity beneath canopy trees and generally reach a mature height between ten (10) and forty (40) feet. A tree that, at the time of planting, is at least five (5) feet tall above the highest root and is one of the species listed in this chapter for understory trees.

Notes

Section 200. Definitions.

Buffer yard – A yard improved with landscaping and screening materials required between different intensities or between adjoining land uses for the purpose of decreasing the potential impact of different uses. The buffer yard is intended to recreate or preserve native woodlands. The buffer yard is also intended to remain free of buildings, impervious surfaces or parking areas. The minimum buffer width is generally a uniform width across the entire length of the common property line between lots on which uses are located that require a buffer yard.

Caliper – The diameter measurement of the trunk of nursery stock trees to be purchased for installation, taken at six (6) inches above the root collar. If the caliper measurement is greater than 4 inches at 6 inches above the root collar, then the caliper measurement is measured at 12 inches above the root collar. When measuring any tree, other than nursery stock, the tree is measured using the Diameter at Breast Height (DBH) method (See DBH definition).

~~**Deciduous Tree** – Trees that lose their leaves each fall, go dormant for the winter, and leaf out again in spring.~~

DBH (Diameter at Breast Height) – The measured diameter of a tree at 4.5 feet (average breast height) above ground level, measured from the uphill side of the side of the tree. This measurement is used for sizing existing trees.

~~**Evergreen Tree** – A type of tree that produces vegetation year-round and can assist with more efficient screening techniques.~~

Landscape architect. A person who, by reason of his special knowledge of natural, physical and mathematical sciences, and the principles and methodology of landscape architecture and landscape architectural design acquired by professional education, practical experience, or both, is qualified to engage in the practice of landscape architecture and whose competence has been attested by the Board for Architects, Professional Engineers, Land Surveyors, Certified Interior Designers and Landscape Architects of the Commonwealth of Virginia through licensure as a landscape architect.

Landscaping – The introduction or selective retention of flourishing trees and shrubs carefully selected and arranged to perform a design purpose or environmental function, such as controlling visual direction, providing definition to architecture, modifying climate, filtering air pollution, and controlling runoff and erosion. Trees and shrubs shall be the primary plant materials to apply to the development of the required landscaping and street planting. Street planting may include berms and low walls in conjunctions with trees and shrubs.

~~**Large Shrub** – A woody plant with relatively low height, consisting of several stems rather than a main trunk, which at maturity grows to greater than or equal to 3 feet in height.~~

~~Large Tree~~ – A tree that, under normal growth conditions, reach a mature height at or above forty (40) feet. A tree that, at the time of planting, is at least twelve (12) feet tall above the highest root has a minimum caliper of three (3) inches diameter at breast height (DBH).

Net linear feet – The amount of linear footage along a street or property line that requires a planting area, not including any area used for vehicular access, ~~IMP, or LID~~ or any area being saved under the requirements of Section 140, Credits, of this document. It may include sidewalks and utility easements that cross perpendicular through the ~~planting area landscape strip.~~

Ornamental Grass – An annual or perennial grass plant valued for its texture and color in the landscape, typically grown for its showy foliage and visual contrast.

Planting area – Area of the property designated to ~~include provide~~ the required planting units of this document. It shall not include sidewalks and utility easements parallel to the street or property line for which the planting area is adjacent ~~to.~~

Plant Units (p.u.) – A specific value assigned to each type of tree or shrub to determine the required amount of buffering or landscaping to be provided or credited within a designated area.

Privacy/Opaque Fence – A fence at least six (6) feet in height and does not allow the passage of radiant energy or light for all portions of the fence. Maintenance of the fence shall be in compliance with Section 28-89 of the Zoning Ordinance. Cloth, plastic or other fence covers attached to or inserted within a chain link fence shall not be permitted.

Screening – The method by which a view from one site to an adjacent site is shielded, concealed or hidden. Screening techniques may include, but not limited to: ~~f~~Fences, walls, hedges, berms or other features.

Shrubs – A woody plant with relatively low height, consisting of several stems rather than a main trunk.

Shrub, Large – A woody plant with relatively low height, consisting of several stems rather than a main trunk, which at maturity grows to greater than or equal to 3-feet in height.

Small Shrub, Small – A woody plant with relatively low height, consisting of several stems rather than a main trunk, which at maturity grows less than 3-feet in height or can survive pruning to 3-feet or less.

Tree – A woody, tall growing perennial plant generally with one main stem or trunk, but including multiple-stemmed plants, which characteristically develops many branches, generally at greater height above the ground than shrubs.

Tree bed or planting bed. A planting area that encompasses the use of low-growing shrubs or groundcover.

Tree, Deciduous – Trees that lose their leaves each fall, go dormant for the winter, and leaf out again in spring.

Tree, Evergreen – A type of tree that produces vegetation year-round and can assist with more efficient screening techniques.

Tree, Large – A tree that, under normal growth conditions, reach a mature height at or above forty (40) feet. A tree that, at the time of planting, is at least twelve (12) feet tall above the highest root has a minimum caliper of three (3) inches diameter at breast height (DBH).

~~*Understory or Small Tree*~~, *Understory or Small* – A type of tree that, under normal growth conditions, will grow to maturity beneath large trees and generally reach a mature height between ten (10) and forty (40) feet. A tree that, at the time of planting, is at least five (5) feet tall above the highest root

Xeriscape – A landscaping method developed especially for arid and semiarid climates that utilizes water-conserving techniques, such as the use of drought-tolerant plants, mulch, and efficient irrigation.

SECTION 300

REFERENCES

Section 300. References.

American Standard for Nursery Stock by ANLA, 2004

[City of Charlottesville, web: www.charlottesville.org](http://www.charlottesville.org)

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Eastern Mountains and Piedmont 2016 Regional Wetland Plant List;
https://mfburchick.files.wordpress.com/2016/05/reg_emp_016vl.pdf

Guidelines for Planning Near Power Lines: www.dom.com

[Janis Miller, Horticulture Curator, Virginia Living Museum, Newport News, Virginia, \(757\) 595-1900, e-mail: Janis.miller@valivingmuseum.org, web: www.valivingmuseum.org](mailto:Janis.miller@valivingmuseum.org)

Landscape Plants of the Southeast, R. Gordon Halfacre and Anne Rogers Shawcroft, 5th Edition, 1989, Sparks Press, INC., ISBN 0-916822-14-1

National Wetland Plant List 2016://
http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/news/FS_NWP_Plantlist_Apr2016_v2.pdf

USDA Tree Factsheet and Guide: <https://plants.usda.gov/java/factSheet>

[Virginia Department of Conservation and Recreation, Natural Heritage Program, \(804\) 786-7951
www.drc.virginia.gov/natural_heritage/nativeplants.shtml](http://www.drc.virginia.gov/natural_heritage/nativeplants.shtml)

Virginia Invasive Plant Species List: <http://www.dcr.virginia.gov/natural-heritage/invspdflist>

www.plantcentralrappnatives.org

~~[Janis Miller, Horticulture Curator, Virginia Living Museum, Newport News, Virginia, \(757\) 595-1900, e-mail: Janis.miller@valivingmuseum.org, web: www.valivingmuseum.org](mailto:Janis.miller@valivingmuseum.org)~~

~~[City of Charlottesville, web: www.charlottesville.org](http://www.charlottesville.org)~~

DESIGN & CONSTRUCTION STANDARDS

Landscaping • Screening • Buffering



STAFFORD COUNTY, VIRGINIA

Adopted 2019

Design and Construction Standards for Landscaping, Buffering and
Screening (DCSL)
Stafford County, Virginia

SECTION 100

DESIGN AND CONSTRUCTION STANDARDS

Part 1

Design Standards

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Section 101.0 General

This document as referenced in the Code of the County of Stafford, Virginia, Chapter 28, may also be known as the “DCSL” or simply the “landscape manual”.

Section 101.1 Purpose

- (a) This manual, fully named THE DESIGN AND CONSTRUCTION STANDARDS FOR LANDSCAPING, BUFFERING AND SCREENING, STAFFORD COUNTY, VIRGINIA, has been developed and designed to assist the public in knowing the policies and regulations which apply to land development in Stafford County (County). The provisions contained herein relate primarily to the requirements which apply to the review and approval of development plans and plats, and construction in accordance with those plans.
- (b) This documents effectuates or supplements requirements of the following:
 - 1. Zoning Ordinance
 - 2. Subdivision Ordinance
 - 3. Standardized Landscape Specifications for the Commonwealth of Virginia
 - 4. Code of the Commonwealth of Virginia
 - 5. Virginia Uniform Statewide Basic Building Code
 - 6. Chesapeake Bay Preservation Area Designation and Management Regulations VR-173-02-01
 - 7. Virginia Department of Transportation Standards and Specification
- (c) The laws and ordinance in Section 101.1(b) shall take precedence in the event of conflict between them and this manual
- (d) This manual is adopted by reference and shall have the force and effect of law. In the event any part or provision of this manual is held to be illegal or void, this shall not have the effect of making void or illegal any of the other parts or provisions of this manual, which shall remain effective.
- (e) The standards and specifications contained herein are the minimum acceptable standards. The use of native species and xeriscaping practices are encouraged. The use of invasive species shall not be permitted. The Director of Planning and Zoning may, in certain circumstances, require higher standards if it is deemed necessary for the insurance of health, safety, and welfare of the citizens of the County.

Section 101.2 Effective Date

The original effective date of this document was January 12, 2006 per Ordinance O05-33 adopted by the Board of Supervisors.

The document was last amended per Ordinances O06-64 and O06-65 on the 19th day of September, 2006.

Section 101.3 Amendments

- (a) The Board of Supervisors shall amend this document which shall be effective from the date of approval.
- (b) The provisions of this document are adopted as policies of the Board of Supervisors.

Section 101.4 Administration

- (a) The provisions of this document shall be administered jointly and cooperatively by the Department of Planning and Zoning, and the Department of Public Works.
- (b) Generally, the Department of Planning and Zoning shall be responsible for the formal approval. The bonding and security processes shall be the responsibility of the Department of Public Works.
- (c) The Department of Planning and Zoning shall be responsible for site inspection and related enforcement of regulations found in the manual.

Section 101.5 Waivers and Departures

- (a) The provisions of this document shall be required unless specifically waived, where applicable, by either the Agent or the Planning Commission, according to their respective areas of administration, as cited in this document. Waiver and Departure requests for fees, monetary contributions, escrows, and extensions of plan approval validity shall not be considered.
- (b) In considering and acting upon waivers and departures and in consideration of the public health, safety, and welfare, the County may prescribe appropriate conditions and safeguards to further express the intent of this manual.
- (c) Waivers and Departures shall be part of the official record of the submission by an application with the appropriate fees.

Section 101.6 Fees

The application fees for review of plats, plans, waivers, departures or other necessary documents, are established by the Board of Supervisors by resolution.

Section 101.7 Appeals of Agent's Decision

The decision of the Agent is final. If the Agent disapproves any plan submitted pursuant to all processing requirements identified in the section, and the applicant of such plan contends that such

disapprovals were not properly based on applicable state and local ordinances and policies, (s)he may appeal to the Board of Supervisors. Such appeal must be filed with the Board of Supervisors within ten (10) days of the written disapproval by the Agent.

Section 101.8 Criminal Penalties – Emergency Orders:

Refer to Article XVII, Enforcement, of the Zoning Ordinance

Section 102.0 Applicability

Buffer areas, basic landscaping, tree cover requirements and screening shall be provided for all major developments except for any development within the boundaries of a public airport, where required by the Zoning Ordinance and in accordance with this document.

Section 103.0 – 109.0 Reserved

Buffer Yards

Section 110.0 Buffer Yards

All major development may be subject to Sections 110.1, 110.2, and 110.3 of this document. Sections 110.1, 110.2, and 110.3 will determine the location, width and plant units for each buffer yard. Paragraphs (a) through (j) are applicable to all buffer yards.

a. Plant Units

Large Trees = 10 p.u. each

Understory Trees = 7 p.u. each

Large Shrubs (\geq 3-feet in height) = 3 p.u. each

Small Shrubs ($<$ 3-feet in height) = 1 p.u. each

Ornamental Grasses = 1 p.u. each

- b. Plantings must be a mix of plant unit types as follows: (50) percent of the p.u. shall be large trees; (30) percent of the p.u. shall be understory trees; (10) percent of the p.u. shall be large shrubs; and (10) percent of the p.u. shall be small shrubs and/or ornamental grasses.
- c. When calculating number of individuals the results shall be rounded up.
- d. A minimum of 25 percent of the total number of shrubs shall be evergreen shrubs.
- e. A minimum of 20 percent of the total number of large trees must be large size evergreen trees, and a minimum of 20 percent of the total number of understory trees must be understory size evergreen trees.
- f. Sections 110.1 and 110.3: Maintenance within these buffers shall be the minimum necessary to retain a healthy natural appearance of native vegetation with a natural ground cover.
- g. Section 110.2: Maintenance within this buffer type shall be the minimum necessary to retain healthy vegetation; shall include regular pruning/shaping of the vegetation to maintain healthy growth and desired appearance; shall maintain required vegetation heights; and can include regular weeding/mulching to promote a sculptured appearance.
- h. If a 5 foot berm, 8 foot solid freestanding wall or noise abatement wall is located within the buffer yard, plant units and buffer yard width shall be reduced by 50%. The berm or wall shall be located nearest to the right-of-way.
- i. If a 3 foot berm or 3 foot solid freestanding wall similar to the material of the primary building is located within the buffer yard, the width of the buffer yard shall be reduced by 25%.
- j. For Section 110.3, Transitional Buffers. If a six (6) foot tall privacy/opaque fence is located within the buffer yard, plant units and buffer yard width shall be reduced by 50%. The fence should be located nearest to the abutting property.

Section 110.1 Street Buffers adjacent to Freeways/Interstates

The following are buffer requirements for all development adjacent to roads designated by VDOT as a freeway/interstate. Access to this road is strongly restricted.

- a. A buffer yard as required shall be provided along the entire frontage along the road designated as a freeway/interstate.
 - b. When planting is required, evergreens shall not be placed within 40 feet from the edge of the right-of-way.
 - c. A noise impact study shall be conducted and submitted with the application to Stafford County and VDOT for all residential development adjacent to a freeway/interstate to determine if noise abatement walls shall be required. VDOT State Noise Abatement Policy, effective January 1, 1997 as amended, shall be applicable. The U.S. Code of Federal Regulations part 772(23 CFR 772) will be the guiding document for the analysis and abatement of highway traffic noise.
 - d. If a noise abatement wall is required, it shall be the responsibility of the developer/development to coordinate the location, design, construction and maintenance of the wall with VDOT officials. This includes providing funds that VDOT may not receive as a result of the funding programs described in the U.S. Code of Federal Regulations part 772 (23 CFR 772).
 - e. The wall shall be shown on the approved preliminary subdivision or construction plan with a note stating at what phase the wall will be constructed. The plan shall show any construction easements that may be required to construct the wall.
 - f. If the noise abatement wall is required and is not eligible for funding per the U.S. Code of Federal Regulations part 772 (23 CFR 772), then alternative means to best satisfy the results of the study must be approved via a Departure from Design Standards.
- (1) **Major Residential Subdivisions**
- a. The buffer yard width is 100' with 325 Plant units per every 100 linear feet.
- (2) **Non-residential Development**
- a. The buffer yard width is 60 feet with 132 Plant units per every 100 linear feet.

Section 110.2 Street Buffers adjacent to Arterial or Collector streets

The following are buffer requirements for all development adjacent to roads designated by VDOT as arterial streets or collector streets.

(1) Major Residential Subdivisions

- (a) The planting area shall be 25 feet wide with 75 Plant units per every 100 linear feet and shall be exclusive of all parallel easements.
- (b) Per Section 22-153 of the Subdivision Ordinance, the buffer yard shall be an open space parcel, except A-1 and A-2 zoning districts. This open space parcel will be under the ownership of the homeowners association for that subdivision and used exclusively for the purpose of providing the required buffer yard.
- (c) Plantings shall not be located in an area that may create a visual obstruction along the street or within the area determined to be the line of sight for any intersection, drive aisles and parking aisles unless such vegetation is maintained so not to be located within the clear zone, which is the area located from 3 feet to 10 feet above the ground^[AGT2]. All vegetation shall be maintained regularly to maintain a clear line of sight and to remove any branches/limbs greater than 3 feet in height and less than 10 feet in height. This may be accomplished by selecting the proper plants based on size at maturity and regular pruning maintenance.

(2) Non-residential Development

- (a) The buffer yard shall be 15 feet wide with 50 Plant units per every 100 net linear feet and is exclusive of all parallel easements.
- (b) Plantings shall not be located in an area that may create a visual obstruction along the street or within the area determined to be the line of sight for any intersection, drive aisles and parking aisles unless such vegetation is maintained so not to be located within the clear zone, which is the area located from 3 feet to 10 feet above the ground^[AGT3]. All vegetation shall be maintained regularly to maintain a clear line of sight and to remove any branches/limbs greater than 3 feet in height and less than 10 feet in height. This may be accomplished by selecting the proper plants based on size at maturity and regular pruning maintenance.

Section 110.3 Transitional Buffers

A transitional buffer may be required if the use of an adjacent property is different than the proposed development. See Table 1 to determine if a transitional buffer will be required. The transitional buffer shall be required along the entire length of the property line abutting the use that impacts the development. If a specific use is not listed, the Zoning Administrator shall determine the category in which the unlisted use will be categorized.

- (a) Per Section 22-153 of the Subdivision Ordinance, the transitional buffer on residential zoned properties, except A-1 and A-2, shall be an open space parcel. The open space parcel shall be owned and maintained by an HOA for the subdivision.
- (b) If the developing property with a residential use is adjacent to a vacant residential or agriculture zoned property or property proposed to be a residential use according to an approved General Development Plan (GDP), the developing property shall not be required to provide a transitional buffer.
- (c) If the developing property with a non-residential use is adjacent to a residential property, vacant property zoned residential or agricultural, or property proposed to be a residential use according to an approved GDP, the developing property shall provide 100% of the required buffer for the highest intense residential use on Table 2 permitted on the adjacent property. If a hardship is encountered that is not self-imposed, the developing property has the option to provide screening as outlined in Section 130 (1), pending approval by the agent.
- (d) If the developing property with a residential use is adjacent to a vacant property zoned non-residential or proposed to be a non-residential use according to an approved GDP, the developing property shall provide 100% of the required buffer for the highest intense use permitted on the adjacent property zoning district.
- (e) If the developing property with a non-residential use is adjacent to a vacant property zoned non-residential or property proposed to be a non-residential use according to an approved GDP or Conditional Use Permit (CUP), the developing property shall not be required to provide a transitional buffer.
- (f) Development of property zoned PD-2 (Planned development-2) shall be exempt from complying with Table 1.0, Transitional Buffer matrix.

Table 1.0 Transitional Buffer

TB-A – 20' wide with 65 plant units per every 100 linear feet

TB-B – 35' wide with 115 plant units per every 100 linear feet

TB-C – 50' wide with 162 plant units per every 100 linear feet

TABLE 2 TRANSITIONAL BUFFERS MATRIX												
PROPOSED USE	ADJACENT USE											
	1	2	3	4	5	6*	7	8	9	10	11	12
<i>Residential Uses</i>												
1. ACTIVE AGRICULTURE		A	A	B	B	B	B	C	C	C	C	C
2. SINGLE FAMILY DETACHED	A		A	B	B	B	B	C	C	C	C	C
3. SF Attached/Multifamily	A	A		A	B	B	B	B	C	C	C	C
4. DESIGNATED HISTORIC SITES - includes bed & breakfast	B	B	A		A	B	B	B	C	C	C	C
<i>Public / Quasi Public</i>												
5. Active Recreation Facilities. Include outdoor recreational enterprises & community center	B	B	B	A		A	A	B	B	B	C	C
6. PUBLIC FACILITIES - treatment plants, fire/rescue stations, railroads*	B	B	B	B	A		A	B	B	B	C	C
7. INSTITUTIONAL- Schools, places of worship, day care facilities.	B	B	B	B	A	A		A	B	B	B	C
<i>Non-Residential Uses</i>												
8. CARE FACILITIES - Retirement housing, nursing/convalescent homes, assisted care, hospitals, emergency fac., Animal Hospital, veterinarian office, kennels	C	C	B	B	B	B	A		A	B	B	C
9. COMMERCIAL/OFFICE/RETAIL - includes hotels, motels, banks, restaurants, drive thru's, theaters, club/lodge/fraternal organizations, indoor recreational enterprises, contractors business without outside storage, funeral homes	C	C	C	C	B	B	B	A		A	B	C
10. AUTO SALES, REPAIR & SERVICE - includes vehicle fuel sales (gas station), Car Wash (not truck wash) & vehicle rentals	C	C	C	C	B	B	B	B	A		A	B
11. LIGHT INDUSTRIAL/MANU - includes mini-storage, wholesale business, contractor business with outside storage, printing/publishing/engraving, research facilities	C	C	C	C	C	C	B	B	B	A		A
12. HEAVY INDUSTRIAL - Manufacturing, processing- includes Auto Salvage, Junk & Graveyards, recycling, truck/freight terminal, truck wash	C	C	C	C	C	C	C	C	C	B	A	
*Excludes correction facilities												

Ord. No. O06-64, 9-19-06

Section 111.0 - 119.0 Reserved

Landscaping

Section 120.0 Landscaping

All development may be subject to Sections 120.1, 120.2, 120.3 and 120.4 of this document. The sections will determine the location, width and plant units for each planting area to provide landscaping. Paragraphs (a) through (b) are applicable to all planting areas.

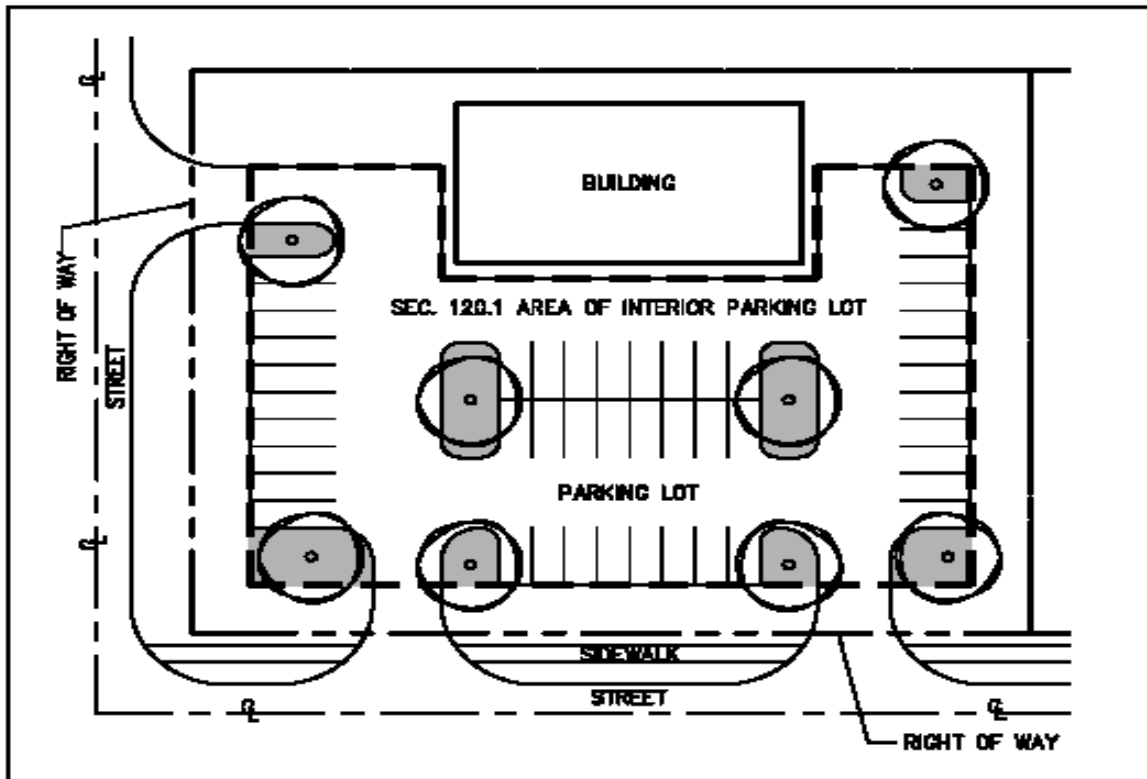
- (a) Plant Units
 - Large Trees = 10 p.u. each
 - Understory Trees = 7 p.u. each
 - Large Shrubs (\geq 3-feet in height) = 3 p.u. each
 - Small Shrubs ($<$ 3-feet in height) = 1 p.u. each
 - Ornamental Grasses = 1 p.u. each
- (b) When the planting area abuts a street or property line, it shall be provided within twenty-five (25) feet from the street or property line
- (c) A minimum of 20 percent of the total number of shrubs and understory trees must be evergreen. Street trees required for major residential subdivisions shall be exempt from this requirement.
- (d) Maintenance shall be the minimum necessary to retain healthy vegetation; shall include regular pruning/shaping of the vegetation to maintain healthy growth and desired appearance; shall maintain required vegetation heights; and can include regular weeding/mulching to promote a sculptured appearance.

Section 120.1 Parking Lots, Interior

- (a) Any surface parking lot containing twenty-four (24) or more spaces shall provide planting areas within the boundaries of the parking lot.
- (b) The parking lot shall consist of the entire paved parking and vehicular circulation area, including all parking spaces and drive isles. It shall not include any area associated with loading spaces unless the loading spaces are within the parking lot.
- (c) A minimum of five (5) percent of the parking lot shall be landscaped with trees and/or shrubs and/or ornamental grasses.
- (d) 12 Plant Units for every 150 square feet of planting area shall be required, and shall include a minimum of one (1) tree.
- (e) Landscape islands (planting area) shall be no smaller than 150 square feet (exclusive of curbing) for single row parking bays, and no smaller than 300 square feet for double row parking bays.
- (f) Landscape islands shall be placed at the end of all parking bays.

- (g) For single row parking bays, there shall be no more than 16 parking spaces permitted between landscape islands. Where double row parking bays are provided, there shall be no more than 32 parking spaces permitted between landscape islands.
- (h) If the placement for such landscape islands results in planting areas greater than the minimum five (5) percent required, the higher percentage shall apply.
- (i) Plantings shall not cause an obstruction of view along the street or within any area determined to be the line of sight for any intersection, drive aisles and parking aisles unless such vegetation is maintained so not to be located in a clear zone which is greater than 3 feet in height and less than 10 feet in height. All vegetation shall be maintained regularly to allow for a line of sight and to remove any branches/limbs greater than 3-feet in height and less than 10_[AGT4]-feet in height. This can be accomplished by selecting the proper plant based on size at maturity and regular pruning maintenance.
- (j) Parking spaces located within a building or structure (parking garage) shall not be subject to these requirements..
- (k) Integrated Management Practices (IMP) . When all or a portion of the Planting Area within the parking area is used for (IMP), the following steps shall be used to determine the landscaping requirements for the planting area that is not utilizing IMP.
 - (1) Determine the required square footage of planting area per Section 120.1(c).
 - (2) Determine the square footage of planting area utilizing IMP.
 - (3) Subtract Paragraph (2) from (1).
 - (4) Provide the balance square footage of planting area required and provide landscaping in accordance with 120.1(d) above for the remaining balance only.
 - (5) All planting areas utilizing IMP shall be exempt from 120.1(d) above. Landscaping provided in IMP areas are required components of these storm water features which are administered and regulated by the Department of Environmental Quality. Such landscaping shall not count towards the plant unit requirements for paragraph (4) above.

Example for Area of Interior parking Lot

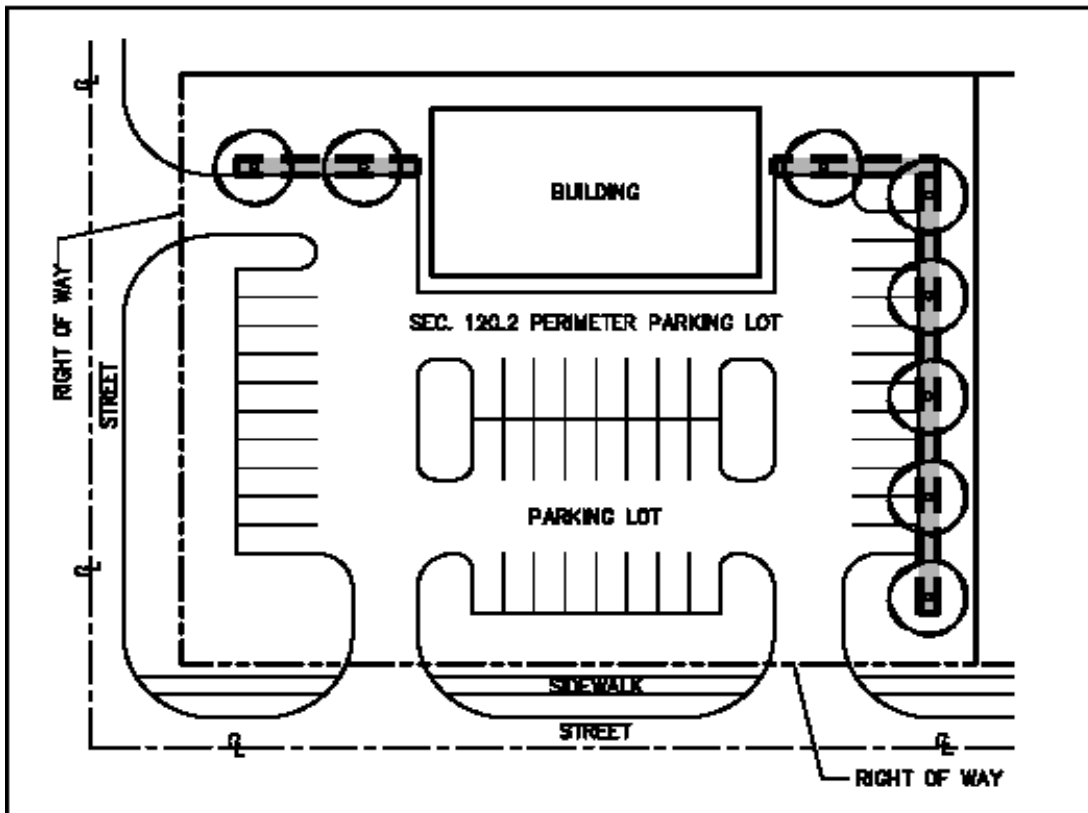


Section 120.2 Parking Lot, Perimeter

A planting area shall be provided along the perimeter of all parking lots.

- (a) If the planting area between the parking lot and the property line is subject to Section 110.3 Buffer Yards and/or 120.4 Landscaping, Street Trees of this document, this section shall not apply.
- (b) The planting area shall be 5 feet wide with 35 Plant Units per every 100 net linear feet of the perimeter of the parking lot.
- (c) If any portion of the planting area is utilizing IMP, that portion shall be exempt from this requirement.

Example of Area of Parking Lot Perimeter

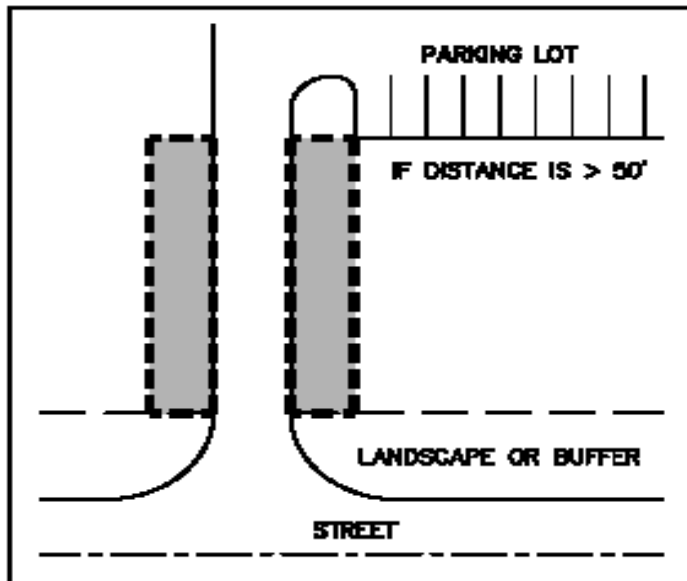


Section 120.3 Parking Lot, Vehicle Access Drive

A planting area shall be provided on both sides of a vehicular access drive that is not a public street, between a required landscape or buffer yard and the parking lot, if the distance of the vehicular access drive exceeds fifty (50) feet.

- (a) If the planting area between the vehicle access drive and the property line is subject to Section 110.3 Transitional Buffers of this document, this section shall not apply.
- (b) The planting area shall be 5 feet wide with 35 Plant Units per every 100 net linear feet of vehicle access drive.
- (c) If any portion of the planting area is utilizing IMP , that portion shall be exempt from this requirement.

Example for Vehicle Access Drive Landscape Area



Section 120.4 Landscaping, Street Trees

(1) Major Residential Subdivisions: Single Family Detached

- (a) A planting area shall be provided along the frontage for all streets abutting lots of a major residential subdivision that is not subject to the requirements of Sections 110.1 and 110.2 of this document.
- (b) The planting area shall be 10 feet wide along the street frontage.
- (c) Large trees shall be utilized and spaced a maximum of 100 feet apart. A minimum of one (1) tree shall be provided for every lot. The trees shall not be located within the right-of-way.
- (d) A planting schedule shall be created based on the number of lots and net linear feet of street frontage.
- (e) The curve of the cul-de-sac counts towards the net linear footage of street frontage.

(2) Major Residential Subdivisions: Single Family Attached/Multi Family

- (a) A planting area shall be provided along the frontage for all streets abutting lots of a major residential subdivision that is not subject to the requirements of Sections 110.1 and 110.2 of this document.
- (b) The planting area shall be 10 feet wide along the street frontage.
- (c) Understory trees or large trees shall be utilized and spaced a maximum of 100 feet apart. When using understory trees in place of large trees, three (3) small shrubs must accompany the understory tree within the same maximum 100 foot interval. The trees shall not be located within the right-of-way.
- (d) A planting schedule shall be created based on the net linear feet of street frontage.
- (e) The curve of the cul-de-sac counts towards the net linear footage of street frontage.

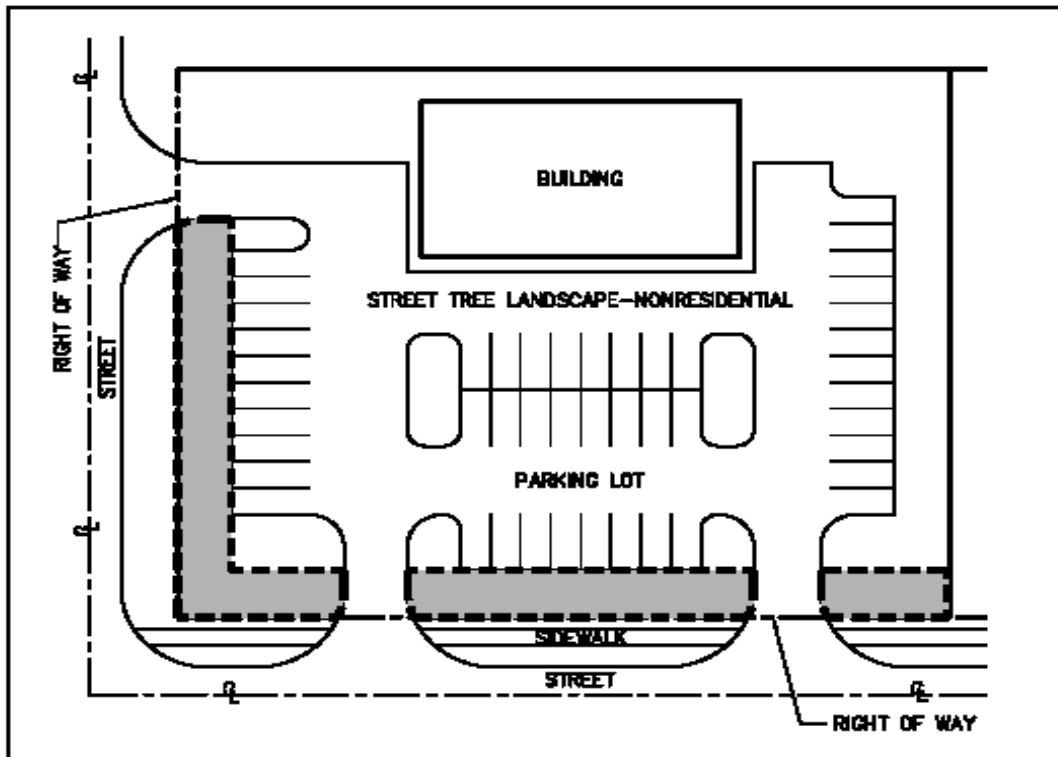
[AGT5]

(3) Non-residential Development

- (a) A planting area shall be provided along the frontage for all streets abutting a non-residential development that is not subject to the requirements of Sections 110.1 and 110.2 of this document.
- (b) The distance of street frontage shall not include any area used for vehicular access.

- (c) The landscape requirements shall not be located within a utility easement if the utility easement is not perpendicular to the street. The landscape requirements shall be located outside of the easement.
- (d) The planting area shall be 10 feet wide with 21 Plant Units per every 100 net linear feet of street frontage.

Example of Street Trees Landscaping



Section 121.0 – 129.0 Reserved

Screening

Section 130.0 Screening

The uses listed in Section 28-88 of the Zoning Ordinance shall be screened from any public street or adjacent properties by one (1) means of screening described below.

If the use to be screened is not the primary business or use on the property and is leased from the property owner, the provisions being provided to screen the use shall be within the lease area and under the responsibility of the lessee and not the property owner.

- (1) Evergreen screen, 15 foot wide strip providing 2 staggered rows of evergreen trees at least 6 feet tall when planted and separated a minimum of 8 feet;
- (2) 8' high solid wall;
- (3) 8' high board-on-board/sight-tight fence; or
- (4) 5' high berm with 20 evergreen trees and 50 shrubs for every 100 linear feet of street frontage.

Section 131.0 – 139.0 Reserved

Credits

Substitution

Alternative Compliance

**Departure from Design
Standards**

Section 140.0 Credits

A development may establish credit for existing vegetation provided the area being protected are located within a required planting area and is equal to or greater than the required Design Standards (Part 1) to which the credits will be applied and the amount of plant units is equal to or greater than the amount required.

As part of the development plan review process, a Landscape Credits Request Letter shall be submitted to the Department of Planning and Zoning for review and approval. Site clearing, grading, and removal of existing vegetation as a means to avoid the review process shall be prohibited. In order to be complete, a landscape credits request shall include justification, tabulation, supporting documentation and graphics that may include photo diagrams.

Landscape Credit criteria are as follows:

- (a) Existing vegetation is of sufficient size and density to meet the intent of the document. The applicant shall include with the construction and/or site plan a plant inventory delineating all trees four (4) inches diameter at breast height (DBH) and greater, specify the scientific and common names of species, and the tree save area must provide an acceptable cover of tree stand.
- (b) Plant Units for trees to be saved:
 - (1) 4" – 6" DBH = 10 Plant Units
 - (2) 7" – 12" DBH = 15 Plant Units
 - (3) 13" – 17" DBH = 20 Plant Units
 - (4) 18" – 24" DBH = 25 Plant Units
 - (5) 25" DBH + = 30 Plant Units
- (c) Trees must be structurally sound, healthy, without disease or insect infestation.
- (d) The dripline shall be surveyed and the limits of clearing shall be established ten (10) feet beyond the surveyed dripline to reduce the impacts generated from installation of silt fences and diversion dikes and equipment.
- (e) Buildings shall be located no closer than fifteen (15) feet from the dripline unless waived by the Agent.
- (f) Tree protection areas shall be established prior to clearing. The tree protection area shall be established with orange mesh fencing and clearing shall not exceed that shown on the plan. Any encroachment shall be deemed a violation of the credit approval and the owner/developer shall be required to replant the area and resubmit a plan to the county showing the required planting for the buffer. A letter of request along with a restoration plan shall be submitted to the agent for approval.
- (g) All tree protection devices shall remain in place until the project is completed, inspected and approved by the agent.

- (h) When a portion of a buffer yard shown on the plan does not contain a significant stand of vegetation for preservation and does not meet the required plant units for the area, all attempts must be made to save the existing trees. The applicant must show on the plan the existing trees to be saved and the proposed trees needed to comply with the required plant units. If the buffer yard location has existing trees and they are to be removed, the applicant must submit a letter of request to remove the existing trees with an attached mitigation plan to the Agent addressing deficiencies found in protecting the existing trees.
- (i) The planting area and plant unit requirements for Section 120.1, Parking Lot, Interior, of this document shall be reduced by fifty (50) percent if the applicant retains existing vegetation along the perimeter of the parking lot provided the area being saved doubles the amount of plant units and planting areas required for the interior landscape area. If the same tree saved area is subject to other sections of this document, ~~then~~ it must also meet the plant unit and width requirements of that section in order to be used towards the reduction of plant units and planting areas for Section 120.1. If additional trees are required in the tree save area to comply with other sections of this document, it cannot be used to reduce the amount of plant units and planting areas for Section 120.1, Interior parking lot requirements.

Section 141.0 Substitution

The agent may grant the approval of the substitution of plants within a buffer or planting area provided the plants unit requirements remain equal to or greater than the amount required for that buffer or planting area. This does not permit the width of the required buffer or planting area to be reduced.

If the request for substitution is made after an application has been approved, the applicant must submit the request in writing to the agent. The approved response from the agent shall be attached to the approved plan. The request must specify the trees being substituted and provide the reason for the substitution. The request must demonstrate how the substitution meets or exceeds the plant unit requirements for the buffer yard or planting area in which the substitution is being requested.

Section 142.0 Alternative Compliance

The agent may grant a request for an alternative compliance to reduce the width requirements of a buffer or planting area or minimum square footage of planting area requirements of a section or sections of this document, provided the plant units are equal to or greater than the requirements of that section or sections.

The request shall demonstrate other provisions have been made to facilitate the reduction in the required width or square footage for planting areas.

The Alternative Compliance application is granted for the section or sections of this document in conjunction with a development plan, including but not limited to a subdivision, construction or site plan applications.

The request for an alternative compliance shall be submitted to the agent in writing on forms determined by the Department of Planning and Zoning. The letter shall explain the justification for the alternatives being sought and demonstrate how the plan will meet or exceed the minimum number of plant units required for the buffer or planting area.

The Agent shall provide an approval letter granting the alternative compliance and shall be embedded in the plans for which the alternative compliance was granted.

The alternative compliance is granted for a specific section or sections of this document as part of a specific development plan and cannot be used in conjunction with any other section of this document for the same property or another property.

If the application expires, the granting of any alternative compliance associated with the plan shall also expire.

Section 143.0 Departure from Design Standards

If relief from the amount of plant unit requirements for a section or sections of this document is needed, a request for a departure from design standards application shall be required. The departure from design standards shall be approved by the Planning Commission after conducting a public hearing.

- (a) The application and associated fees for Departure from Design Standards shall be submitted to the Department of Planning and Zoning and shall include any required analysis.
- (b) The applicant shall show hardship for the Departure and show any techniques being provided to accommodate the initial requirements to the maximum extent practical.
- (c) If the departure is a result of a denied request for an alternative compliance, the request for the alternative compliance and the response letter from the Agent shall be submitted with the application.
- (d) The decision of the application shall be determined after a public hearing by the Planning Commission is completed.
- (e) An appeal of the decision of the Planning Commission shall be submitted to the Board of Supervisors.

Part 2

Construction Standards

Section 150.0 Purpose

The purpose of this document is to set forth provisions and regulations for construction standards of landscaping, buffering and screening within Stafford County upon new and/or existing development that requires such action.

Section 151.0 Installation and Maintenance Criteria

- (A) All required landscaping shall be installed and maintained in a sound, workmanship-like manner and according to accepted, good planting practices and procedures with the quality of plant materials as described in the most recent edition of the *Standardized Landscape Specifications for the Commonwealth of Virginia* published by the Virginia Nursery and Landscape Association (VNLA), available for reference in the Stafford County Department of Planning and Zoning, unless or in addition to requirements set forth within this document.
1. Except for single-family detached residential uses, a security shall be posted to ensure replacement of plant material based on the guidelines found in the *Standardized Landscape Specifications for the Commonwealth of Virginia - Part 1-1.06*.
 2. Except under certain circumstances that must be approved by the Stafford County Department of Planning and Zoning, and the Department of Public Works, reductions of any landscape securities shall not be granted.

Section 152.0 Plant Type, Size and Characteristics

All required landscaping shall be the type and minimum size set forth in the DCSL. See Section 300.0 References, for acceptable plant species.

- (A) For project sites that are equal to or less than twenty (20) acres, there shall be no more than 15 individuals of any one species of large tree, understory tree, and shrub.
- (B) For project sites greater than twenty (20) acres, the total number of individuals of large trees, understory trees, and shrubs shall each have no more than ten percent (10%) of any one species, no more than twenty percent (20%) of any one genus, and no more than thirty percent (30%) of any one family.
1. Large trees shall have a minimum caliper of three (3) inches and shall be a minimum of twelve (12) feet in height above the highest root at the time of planting.
 2. Evergreen trees shall have a minimum caliper of two (2) inches and shall be a minimum of six (6) feet in height above the highest root at the time of planting.
 3. Understory trees shall be a minimum of six (6) feet in height above the highest root at the time of planting.

4. Large shrubs shall be a minimum of two and one-half (2½) feet in height above the highest root at the time of planting and nursery grown in a minimum five (5) gallon container.
5. Small shrubs and ornamental grasses shall be a minimum of six (6) inches in height above the highest root at the time of planting and nursery grown in a minimum one (1) gallon container.

Section 153.0 Landscape Notes

The following landscape notes shall be required and embedded in all landscape plans prior to approval.

- 1) Contractor shall furnish and install all plants as shown on the approved landscape plan, in accordance with the type, sizes, quantities, and specifications listed in the plant schedule.
- 2) Total number of plants shall be drawn on the landscape plan. If the actual total is different from the approved landscape plan, the Contractor shall notify the Owner and/or Owners Representative and approved by The County.
- 3) All plants shall be nursery grown and shall be hardy under climate conditions in the locality of the project.
- 4) Plant dimensions shall be in accordance with the most recent edition of the *Standardized Landscape Specifications for the Commonwealth of Virginia*, which references the American Standard for Nursery Stock (ASNS).
- 5) Balled and burlapped plants shall be dug with firm, natural balls of earth and shall be pruned, stored, and dug in accordance with current ASNS standards. No balled and burlapped plants shall be planted if the ball is either cracked or broken during the process of planting.
- 6) All plants shall have a normal habit of growth and shall be sound, healthy, vigorous, well rooted, and free from disease and insect infestation. Any tree with weak, thin trunks not capable of supporting itself will not be acceptable. The minimum acceptable size of all plants measured before pruning with the branches in normal position shall conform to dimensions as shown on the approved landscape plan. Larger plants of equal quality may be accepted at no additional cost to the Owner.
- 7) Substitution of plants shall not be permitted unless authorized by the Owner and/or Owner's Representative and approved by the County.
- 8) The Contractor shall lay out, with identifiable stakes, the location of all trees, outlines of planting beds, and underground utilities as indicated on the approved landscape plan. In the event that rock, utility lines, or any underground obstructions are encountered during these operations, or in the excavation of any plant pits, alternate locations may be selected

by the Owner and/or Owner's Representative and approved by County with no additional cost to the Owner.

- 9) Planting soil shall be _____.
- 10) Mulch shall be applied immediately after planting operations. Mulch shall be _____, free of debris, weeds, spores or other foreign material, well rotted and of such character as to not be easily removed by the elements.
- 11) Prior to installation, the Contractor shall notify the Owner and/or Owners Representative of all soil or drainage conditions that are detrimental to the growth of plants. The Contractor shall state the conditions and submit a proposal, in writing, correcting the conditions, including any change in cost, for review and acceptance by the Owner.
- 12) A container grown plant shall be defined as a plant transplanted into a container and grown in that container sufficiently long for the new fibrous roots to have developed so that the container mass will retain its shape and hold together when removed from the container. All container grown plants shall be sound, healthy, vigorous, well rooted, free from disease and insect infestation, and established in the container in which they are sold. They shall have tops that are of good quality and are in healthy condition. No root bound container grown plants will be permitted. No container grown plant shall be planted if the root mass is broken either before or during the process of planting.
- 13) All plant pits shall be circular in outline. All excavations shall have vertical sides. The depths and widths for excavation of plant pits shall be the depths and widths as specified in the landscape plan. Loosen subgrade 6" below bottom of the pit. Subgrade soils shall be separated from the upper topsoil portions and removed immediately wherever encountered during planting operations. Excess soils shall be removed and legally disposed.
- 14) In general, set plants at same relation to finished grade as the bore to the ground from which they were dug. Prepare planting pits as specified and as shown on the landscape plan, prior to inserting plants. Use topsoil mixture to backfill approximately 2/3 full. Water thoroughly before installing remainder of the soil to the top of the pit. Set trees plumb and brace rigidly in position until the planting soil has been tamped solidly around the ball and the roots.
- 15) Guying and staking shall be required for all trees in accordance with the landscape plan and must be completed within 24 hours after planting.
- 16) Maintenance of new plants shall consist of pruning, watering, cultivating, weeding, mulching, tightening, and resetting plants to proper grades or upright position. Restoration of the planting saucer and furnishing and applying such sprays are necessary to keep the plant free from disease and insect infestation. Maintenance shall be provided until time of provisional acceptance.
- 17) Plantings and planting areas shall be protected at all times against trespassing and damage of any kind for the duration of the maintenance period. If any plants become damaged,

they shall be treated or replaced by the Contractor at no additional cost to the Owner. No work shall be done within, adjacent to, or over any plant or planting area without proper safeguards and protection.

- 18) All plants shall be guaranteed by the Contractor for a period of one year from the date of provisional acceptance. The Contractor shall provide, in writing, specific maintenance recommendations to the Owner for all plants to remain in good, healthy, and flourishing condition.
- 19) For plants that have been properly maintained by the Owner during the one-year guarantee period, the Contractor shall replace, without cost to the Owner, all dead or severely damaged plants as determined by a certified agent. The replacement plants shall be sound, healthy, vigorous, well rooted, free from disease and insect infestation, and shall closely match surrounding plants of the same size and species. Requirements shall be subject to all requirements stated in this specification.
- 20) The guarantee of all replacement plants shall extend for an additional period of one year from the date of their acceptance after replacement. In the event that a replacement is not acceptable during or at the end of the said extended guarantee period, the Owner may elect a substitution or a credit for each item.
- 21) No plants shall impede the sight distance for ingress & egress to the site.
- 22) Performance bond may be required by Stafford County [Ord. 28-86(C)(5)].

Section 154.0 Sample Planting Schedules

Landscape plans shall include all applicable schedules selected from those shown below to document required and proposed quantities for all items required by this document.

Sample Schedule for Section 110.1 & 110.2

Street Buffers adjacent to Freeway/Interstate & Arterial/Collector Streets

(Separate Schedules are required for each type of Street Buffer)

Variables:

1. **Residential** or **Non-Residential** (*circle one*)
2. Street Buffer required: **Freeway/Interstate** or **Arterial/Collector** (*circle one*)
3. Linear feet of buffer yard along Freeway/Interstate or Arterial/Collector Street: _____ feet
4. Plant units required per Section 110.1 or 110.2: _____ p.u. / 100 linear feet
5. Plant units required within entire buffer yard: $(\#3^* \times \#4^*) / 100 =$ _____ p.u.
5a. Sec. 110.0 h. – Optional plant unit reduction with 5 ft. berm/8 ft wall: $(\#5 / 2) =$ _____ p.u.
6. Existing plant units receiving credit per Sec. 140: _____ p.u.
7. **Total Plant Units required in buffer yard: (#5 or #5A) - #6 =** _____ **p.u.**
8. Proposed percentage of large evergreen trees (minimum 20%) = _____ %
9. Proposed percentage of understory evergreen trees (minimum 20%) = _____ %
10. Proposed percentage of evergreen shrubs (minimum 25%) = _____ %

Calculation of Individuals Required: (*percentages are expressed in decimal format*)

Individuals Proposed:

- | | |
|--------------------------------------------------------------------------------------------------|--------------------------------|
| A. Large Deciduous Tree: $(1 - \#8^*) \times (0.5 \times \#7^*) =$ _____ p.u. | _____ plants x 10 = _____ p.u. |
| B. Large Evergreen Tree: $\#8^* \times (0.5 \times \#7^*) =$ _____ p.u. | _____ plants x 10 = _____ p.u. |
| C. Deciduous Understory Tree: $(1 - \#9^*) \times (0.3 \times \#7^*) =$ _____ p.u. | _____ plants x 7 = _____ p.u. |
| D. Evergreen Understory Tree: $\#9^* \times (0.3 \times \#7^*) =$ _____ p.u. | _____ plants x 7 = _____ p.u. |
| E. Deciduous Large Shrub: $(1 - \#10^*) \times (0.1 \times \#7^*) =$ _____ p.u. | _____ plants x 3 = _____ p.u. |
| F. Evergreen Large Shrub: $\#10^* \times (0.1 \times \#7^*) =$ _____ p.u. | _____ plants x 3 = _____ p.u. |
| G. Deciduous Small Shrub/Ornamental Grass: $(1 - \#10^*) \times (0.1 \times \#7^*) =$ _____ p.u. | _____ plants = _____ p.u. |
| H. Evergreen Small Shrub: $\#10^* \times (0.1 \times \#7^*) =$ _____ p.u. | _____ plants = _____ p.u. |
| I. Total Plant Units proposed: | _____ p.u |

Notes:

- (1) * - Refers to corresponding “Variables” line items.
- (2) Plant unit (p.u.) calculation results shall be rounded up to the next whole number.
- (3) The “Total Plant Units proposed” shown on line item I from the above “Calculation of Individuals Required” shall be equal to or greater than line item #7 from the above “Variables”.

Sample Schedule for Section 110.3

Transitional Buffers

(Separate Schedules are required for each type of Transitional Buffer)

Variables:

1. Proposed Use per Table 2: Number: _____ Use: _____
2. Adjacent property which requires a Transitional Buffer: **N S E** or **W** (*circle one*)
3. Adjacent property use per Table 2: Number: _____ Use: _____
4. Transitional Buffer required per Table 2: **A B** or **C** (*circle one*)
5. Linear feet of buffer yard required along property line: _____ feet
6. Plant units required: _____ p.u. / 100 linear feet.
7. Plant units required within entire buffer yard: $(\#5^* \times \#6^*) / 100 =$ _____ p.u.
 7a. Sec. 110.0 h. – Optional plant unit reduction with 5 ft berm/8 ft wall: $(\#7 / 2) =$ _____ p.u.
 7b. Sec. 110.0 j. – Optional plant unit reduction with 6 ft fence: $(\#7 / 2) =$ _____ p.u.
8. Existing plant units receiving credit per Sec. 140: _____ p.u.
9. **Total Plant Units required in buffer yard: (#7, #7A, or #7B) - #8 =** _____ **p.u.**
10. Proposed percentage of large evergreen trees (minimum 20%) = _____ %
11. Proposed percentage of understory evergreen trees (minimum 20%) = _____ %
12. Proposed percentage of evergreen shrubs (minimum 25%) = _____ %

Calculation of Individuals Required: (*percentages are expressed in decimal format*)

Individuals Proposed:

- | | |
|--------------------------------------------------------------------------------------------------|--------------------------------|
| A. Large Deciduous Tree: $(1 - \#10^*) \times (0.5 \times \#9^*) =$ _____ p.u. | _____ plants x 10 = _____ p.u. |
| B. Large Evergreen Tree: $\#10^* \times (0.5 \times \#9^*) =$ _____ p.u. | _____ plants x 10 = _____ p.u. |
| C. Deciduous Understory Tree: $(1 - \#11^*) \times (0.3 \times \#9^*) =$ _____ p.u. | _____ plants x 7 = _____ p.u. |
| D. Evergreen Understory Tree: $\#11^* \times (0.3 \times \#9^*) =$ _____ p.u. | _____ plants x 7 = _____ p.u. |
| E. Deciduous Large Shrub: $(1 - \#12^*) \times 0.1 \times \#9^* =$ _____ p.u. | _____ plants x 3 = _____ p.u. |
| F. Evergreen Large Shrub: $\#12^* \times (0.1 \times \#9^*) =$ _____ p.u. | _____ plants x 3 = _____ p.u. |
| G. Deciduous Small Shrub/Ornamental Grass: $(1 - \#12^*) \times (0.1 \times \#9^*) =$ _____ p.u. | _____ plants = _____ p.u. |
| H. Evergreen Small Shrub: $\#12^* \times (0.1 \times \#9^*) =$ _____ p.u. | _____ plants = _____ p.u. |
| I. Total Plant Units proposed: | _____ p.u. |

Notes:

- (1) * - Refers to corresponding “Variables” line items.
- (2) Plant unit (p.u.) calculation results shall be rounded up to the next whole number.
- (3) The “Total Plant Units proposed” shown on line item I from the above “Calculation of Individuals Required” shall be equal to or greater than line item #9 from the above “Variables”.

Sample Schedule for Section 120.1

Parking Lot, Interior

Variables:

1. Total square footage of parking lot: _____ sq. feet
2. Minimum planting area required: (#1* x 0.05) = _____ sq. feet
3. Additional square footage required to meet landscape island spacing/placement: _____ sq. feet
4. Amount of planting area utilizing IMP: _____ sq. feet
5. **Total Planting Area required: (#2 + #3*) - #4* = _____ sq. feet**
6. **Total Plant Units required: (#5 / 150) x 12 = _____ p.u.**
 - 6a. **Total Trees required: (#5 / 150) = _____ trees (minimum 1 tree/ 150 sq. ft. planting area)**

Calculation of Individuals: *(percentages are expressed in decimal format)*

- A. Number of Proposed Large Deciduous Trees: _____ (plants) x 10 = _____ p.u.
- B. Number of Proposed Large Evergreen Trees: _____ (plants) x 10 = _____ p.u.
- C. Number of Proposed Understory Trees: _____ (plants)
 - 1) Number of Deciduous Understory Trees *Required*: (C x 0.8) = _____ (plants) x 7 = _____ p.u.
 - 2) Number of Evergreen Understory Trees *Required*: (C x 0.2) = _____ (plants) x 7 = _____ p.u.
- D. Number of Proposed Large Shrubs: _____ (plants)
 - 1) Number of Deciduous Large Shrubs *Required*: (D x 0.8) = _____ (plants) x 3 = _____ p.u.
 - 2) Number of Evergreen Large Shrubs *Required*: (D x 0.2) = _____ (plants) x 3 = _____ p.u.
- E. Number of Proposed Small Shrubs/Ornamental Grasses: _____ (plants)
 - 1) Number of Deciduous Small Shrubs/Ornamental Grasses *Required*: (E x 0.8) = _____ (plants) = _____ p.u.
 - 2) Number of Evergreen Small Shrubs *Required*: (E x 0.2) = _____ (plants) = _____ p.u.
- F. **Total Plant Units proposed: _____ p.u.**

Notes:

- (1) * - Refers to corresponding "Variables" line items.
- (2) Plant unit (p.u.) calculation results shall be rounded up to the next whole number.
- (3) The "Total Plant Units proposed" shown on line item F from the above "Calculation of Individuals" shall be equal to or greater than line item #6 from the above "Variables".

Sample Schedule for Section 120.2

Parking Lot, Perimeter

Variables:

1. Total linear feet of parking lot perimeter: _____ feet
2. Linear feet of parking lot perimeter used for vehicular access: _____ feet
3. Linear feet of parking lot perimeter utilizing IMP: _____ feet
4. **Net Linear Feet of Parking Lot Perimeter:** (#1* - #2*) - #3* = _____ feet
5. **Total Plant Units required:** (#4 / 100) x 35 = _____ p.u.

Calculation of Individuals: *(percentages are expressed in decimal format)*

- A. Number of Proposed Large Deciduous Trees: _____ (plants) x 10 = _____ p.u.
- B. Number of Proposed Large Evergreen Trees: _____ (plants) x 10 = _____ p.u.
- C. Number of Proposed Understory Trees: _____ (plants)
 - 1) Number of Deciduous Understory Trees *Required:* (C x 0.8) = _____ (plants) x 7 = _____ p.u.
 - 2) Number of Evergreen Understory Trees *Required:* (C x 0.2) = _____ (plants) x 7 = _____ p.u.
- D. Number of Proposed Large Shrubs: _____ (plants)
 - 1) Number of Deciduous Large Shrubs *Required:* (D x 0.8) = _____ (plants) x 3 = _____ p.u.
 - 2) Number of Evergreen Large Shrubs *Required:* (D x 0.2) = _____ (plants) x 3 = _____ p.u.
- E. Number of Proposed Small Shrubs/Ornamental Grasses: _____ (plants)
 - 1) Number of Deciduous Small Shrubs/Ornamental Grasses *Required:* (E x 0.8) = _____ (plants) = _____ p.u.
 - 2) Number of Evergreen Small Shrubs *Required:* (E x 0.2) = _____ (plants) = _____ p.u.
- F. **Total Plant Units proposed:** _____ p.u.

Notes:

- (1) * - Refers to corresponding "Variables" line items.
- (2) Plant unit (p.u.) calculation results shall be rounded up to the next whole number.
- (3) The "Total Plant Units proposed" shown on line item F from the above "Calculation of Individuals" shall be equal to or greater than line item #5 from the above "Variables".

Sample Schedule for Section 120.3

Parking Lot, Vehicle Access Drive

Variables:

1. Total linear feet of vehicle access drive between buffer yard and parking lot: _____ feet (*both sides*)
2. Linear feet of vehicle access drive utilizing IMP: _____ feet
3. **Net Linear Feet of Vehicle Access Drive:** (#1* - #2*) = _____ feet
4. **Total Plant Units required:** (#3 / 100) x 35 = _____ p.u.

Calculation of Individuals: (*percentages are expressed in decimal format*)

- A. Number of Proposed Large Deciduous Trees: _____ (plants) x 10 = _____ p.u.
- B. Number of Proposed Large Evergreen Trees: _____ (plants) x 10 = _____ p.u.
- C. Number of Proposed Understory Trees: _____ (plants)
 - 1) Number of Deciduous Understory Trees *Required:* (C x 0.8) = _____ (plants) x 7 = _____ p.u.
 - 2) Number of Evergreen Understory Trees *Required:* (C x 0.2) = _____ (plants) x 7 = _____ p.u.
- D. Number of Proposed Large Shrubs: _____ (plants)
 - 1) Number of Deciduous Large Shrubs *Required:* (D x 0.8) = _____ (plants) x 3 = _____ p.u.
 - 2) Number of Evergreen Large Shrubs *Required:* (D x 0.2) = _____ (plants) x 3 = _____ p.u.
- E. Number of Proposed Small Shrubs/Ornamental Grasses: _____ (plants)
 - 1) Number of Deciduous Small Shrubs/Ornamental Grasses *Required:* (E x 0.8) = _____ (plants) = _____ p.u.
 - 2) Number of Evergreen Small Shrubs *Required:* (E x 0.2) = _____ (plants) = _____ p.u.
- F. **Total Plant Units proposed:** _____ p.u.

Notes:

- (1) * - Refers to corresponding "Variables" line items.
- (2) Plant unit (p.u.) calculation results shall be rounded up to the next whole number.
- (3) The "Total Plant Units proposed" shown on line item F from the above "Calculation of Individuals" shall be equal to or greater than line item #4 from the above "Variables".

Sample Schedule for Section 120.4

Landscaping, Street Trees – RESIDENTIAL
Single Family Detached

Variables:

1. Total linear feet of street frontage: _____ feet
2. Linear feet of street frontage utilizing IMP: _____ feet
3. **Net Linear Feet of Street Frontage:** (#1* - #2*) = _____ feet
4. Total number of lots proposed: _____ lots
5. Plant Units required (*based on net linear street frontage*): $(\#3 / 100) \times 10 =$ _____ p.u.
6. Plant Units required (*based on total # of lots*): $(\#4* \times 10) =$ _____ p.u. (minimum 1 tree / lot)
7. **Total Plant Units required:** _____ p.u. (*shall be equal to #5 or #6, whichever is greater*)

Calculation of Individuals: (*percentages are expressed in decimal format*)

- A. Number of Proposed Large Deciduous Trees: _____ (plants) $\times 10 =$ _____ p.u.
- B. Number of Proposed Large Evergreen Trees: _____ (plants) $\times 10 =$ _____ p.u.
- C. **Total Plant Units proposed:** _____ p.u.

Notes:

- (1) * - Refers to corresponding “Variables” line items.
- (2) Plant unit (p.u.) calculation results shall be rounded up to the next whole number.
- (3) The “Total Plant Units proposed” shown on line item C from the above “Calculation of Individuals” shall be equal to or greater than line item #7 from the above “Variables”.

Sample Schedule for Section 120.4

Landscaping, Street Trees – RESIDENTIAL
Single Family Attached / Multi Family

Variables:

1. Total linear feet of street frontage: _____ feet
2. Linear feet of street frontage utilizing IMP: _____ feet
3. **Net Linear Feet of Street Frontage: (#1* - #2*) = _____ feet**
4. **Total Plant Units required: (#3 / 100) x 10 = _____ p.u.**

Calculation of Individuals: *(percentages are expressed in decimal format)*

- A. Number of Proposed Large Deciduous Trees: _____ (plants) x 10 = _____ p.u.
- B. Number of Proposed Large Evergreen Trees: _____ (plants) x 10 = _____ p.u.
- C. Number of Deciduous Understory Trees: _____ (plants) x 7 = _____ p.u.
- D. Number of Evergreen Understory Trees: _____ (plants) x 7 = _____ p.u.
- E. Number of Deciduous Small Shrubs: _____ (plants) = _____ p.u.
- F. Number of Evergreen Small Shrubs: _____ (plants) = _____ p.u.
- G. **Total Plant Units proposed: _____ p.u.**

Notes:

- (1) * - Refers to corresponding “Variables” line items.
- (2) Plant unit (p.u.) calculation results shall be rounded up to the next whole number.
- (3) The “Total Plant Units proposed” shown on line item G from the above “Calculation of Individuals” shall be equal to or greater than line item #4 from the above “Variables”.

Sample Schedule for Section 120.4

Landscaping, Street Trees – NON-RESIDENTIAL

Variables:

1. Total linear feet of street frontage: _____ feet
2. Linear feet of street frontage used for vehicular access: _____ feet
3. Linear feet of street frontage utilizing IMP: _____ feet
4. **Net Linear Feet of Street Frontage:** (#1* - #2*) - #3* = _____ feet
5. **Total Plant Units required:** (#4 / 100) x 21 = _____ p.u.

Calculation of Individuals: *(percentages are expressed in decimal format)*

- A. Number of Proposed Large Deciduous Trees: _____ (plants) x 10 = _____ p.u.
- B. Number of Proposed Large Evergreen Trees: _____ (plants) x 10 = _____ p.u.
- C. Number of Proposed Understory Trees: _____ (plants)
 - 1) Number of Deciduous Understory Trees *Required:* (C x 0.8) = _____ (plants) x 7 = _____ p.u.
 - 2) Number of Evergreen Understory Trees *Required:* (C x 0.2) = _____ (plants) x 7 = _____ p.u.
- D. Number of Proposed Large Shrubs: _____ (plants)
 - 1) Number of Deciduous Large Shrubs *Required:* (D x 0.8) = _____ (plants) x 3 = _____ p.u.
 - 2) Number of Evergreen Large Shrubs *Required:* (D x 0.2) = _____ (plants) x 3 = _____ p.u.
- E. Number of Proposed Small Shrubs/Ornamental Grasses: _____ (plants)
 - 1) Number of Deciduous Small Shrubs/Ornamental Grasses *Required:* (E x 0.8) = _____ (plants) = _____ p.u.
 - 2) Number of Evergreen Small Shrubs *Required:* (E x 0.2) = _____ (plants) = _____ p.u.
- F. **Total Plant Units proposed:** _____ p.u.

Notes:

- (1) * - Refers to corresponding “Variables” line items.
- (2) Plant unit (p.u.) calculation results shall be rounded up to the next whole number.
- (3) The “Total Plant Units proposed” shown on line item F from the above “Calculation of Individuals” shall be equal to or greater than line item #5 from the above “Variables”.

Sample Schedule for Section 140.

Credits

1. Buffer yard or area receiving credit: _____
2. Total Plant Units required: _____ p.u. (*as shown on applicable planting schedule*)

3. Number of trees between 4" & 6" DBH: _____ x 10 = _____ p.u.
4. Number of trees between 7" & 12" DBH: _____ x 15 = _____ p.u.
5. Number of trees between 13" & 17" DBH: _____ x 20 = _____ p.u.
6. Number of trees between 18" & 24" DBH: _____ x 25 = _____ p.u.
7. Number of trees 25" DBH or greater: _____ x 30 = _____ p.u.

8. **Total Plant Units receiving credit :** _____ **p.u.**

SECTION 200

DEFINITIONS

Section 200.0 Definitions

Buffer yard – A yard improved with landscaping and screening materials required between different intensities or between adjoining land uses for the purpose of decreasing the potential impact of different uses. The buffer yard is intended to recreate or preserve native woodlands. The buffer yard is also intended to remain free of buildings, impervious surfaces or parking areas. The minimum buffer width is generally a uniform width across the entire length of the common property line between lots on which uses are located that require a buffer yard.

Caliper – The diameter measurement of the trunk of nursery stock trees to be purchased for installation, taken at six (6) inches above the root collar. If the caliper measurement is greater than 4 inches at 6 inches above the root collar, then the caliper measurement is measured at 12 inches above the root collar. When measuring any tree, other than nursery stock, the tree is measured using the Diameter at Breast Height (DBH) method (See DBH definition).

DBH (Diameter at Breast Height) – The measured diameter of a tree at 4.5 feet (average breast height) above ground level, measured from the uphill side of the side of the tree. This measurement is used for sizing existing trees.

Landscape architect. A person who, by reason of his special knowledge of natural, physical and mathematical sciences, and the principles and methodology of landscape architecture and landscape architectural design acquired by professional education, practical experience, or both, is qualified to engage in the practice of landscape architecture and whose competence has been attested by the Board for Architects, Professional Engineers, Land Surveyors, Certified Interior Designers and Landscape Architects of the Commonwealth of Virginia through licensure as a landscape architect.

Landscaping – The introduction or selective retention of flourishing trees and shrubs carefully selected and arranged to perform a design purpose or environmental function, such as controlling visual direction, providing definition to architecture, modifying climate, filtering air pollution, and controlling runoff and erosion. Trees and shrubs shall be the primary plant materials to apply to the development of the required landscaping and street planting. Street planting may include berms and low walls in conjunctions with trees and shrubs.

Net linear feet – The amount of linear footage along a street or property line that requires a planting area, not including any area used for vehicular access, IMP, or any area being saved under the requirements of Section 140, Credits, of this document. It may include sidewalks and utility easements that cross perpendicular through the planting area .

Ornamental Grass – An annual or perennial grass plant valued for its texture and color in the landscape, typically grown for its showy foliage and visual contrast.

Planting area – Area of the property designated to include the required plant units of this document. It shall not include sidewalks and utility easements parallel to the street or property line for which the planting area is adjacent.

Plant Units (p.u.) – A specific value assigned to each type of tree or shrub to determine the required amount of buffering or landscaping to be provided or credited within a designated area.

Privacy/Opaque Fence – A fence at least six (6) feet in height and does not allow the passage of radiant energy or light for all portions of the fence. Maintenance of the fence shall be in compliance with Section 28-89 of the Zoning Ordinance. Cloth, plastic or other fence covers attached to or inserted within a chain link fence shall not be permitted.

Screening – The method by which a view from one site to an adjacent site is shielded, concealed or hidden. Screening techniques may include, but not limited to: fences, walls, hedges, berms or other features.

Shrub – A woody plant with relatively low height, consisting of several stems rather than a main trunk.

Shrub, Large – A woody plant with relatively low height, consisting of several stems rather than a main trunk, which at maturity grows to greater than or equal to 3-feet in height.

Shrub, Small – A woody plant with relatively low height, consisting of several stems rather than a main trunk, which at maturity grows less than 3-feet in height or can survive pruning to 3-feet or less.

Tree – A woody, tall growing perennial plant generally with one main stem or trunk, but including multiple-stemmed plants, which characteristically develops many branches, generally at greater height above the ground than shrubs.

Tree bed or planting bed. A planting area that encompasses the use of low-growing shrubs or groundcover.

Tree, Deciduous – Trees that lose their leaves each fall, go dormant for the winter, and leaf out again in spring.

Tree, Evergreen – A type of tree that produces vegetation year-round and can assist with more efficient screening techniques.

Tree, Large – A tree that, under normal growth conditions, reach a mature height at or above forty (40) feet. A tree that, at the time of planting, is at least twelve (12) feet tall above the highest root has a minimum caliper of three (3) inches diameter at breast height (DBH).

Tree, Understory or Small – A type of tree that, under normal growth conditions, will grow to maturity beneath large trees and generally reach a mature height between ten (10) and forty (40) feet. A tree that, at the time of planting, is at least five (5) feet tall above the highest root

Xeriscape – A landscaping method developed especially for arid and semiarid climates that utilizes water-conserving techniques, such as the use of drought-tolerant plants, mulch, and efficient irrigation.

SECTION 300

REFERENCES

Section 300.0 References.

American Standard for Nursery Stock by ANLA, 2004

City of Charlottesville, web: www.charlottesville.org Dirr's Encyclopedia of Trees and Shrubs, Michael A. Dirr, 2012, ISBN 978-0-88192-901-0

Eastern Mountains and Piedmont 2016 Regional Wetland Plant List;
https://mfburchick.files.wordpress.com/2016/05/reg_emp_016vl.pdf

Guidelines for Planning Near Power Lines: www.dom.com

Janis Miller, Horticulture Curator, Virginia Living Museum, Newport News, Virginia, (757) 595-1900, e-mail: Janis.miller@valivingmuseum.org, web: www.valivingmuseum.org

Landscape Plants of the Southeast, R. Gordon Halfacre and Anne Rogers Shawcroft, 5th Edition, 1989, Sparks Press, INC., ISBN 0-916822-14-1

National Wetland Plant List 2016://

http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/news/FS_NWP_Plantlist_Apr2016_v2.pdf

USDA Tree Factsheet and Guide: <https://plants.usda.gov/java/factSheet>

Virginia Department of Conservation and Recreation, Natural Heritage Program, (804) 786-7951
www.drc.virginia.gov/natural_heritage/nativeplants.shtml

Virginia Invasive Plant Species List: <http://www.dcr.virginia.gov/natural-heritage/invspdflist>
www.plantcentralrappnatives.org

R18-291

BOARD OF SUPERVISORS
COUNTY OF STAFFORD
STAFFORD, VIRGINIA

RESOLUTION

At a regular meeting of the Stafford County Board of Supervisors (the Board) held in the Board Chambers, George L. Gordon, Jr., Government Center, Stafford, Virginia, on the 11th day of December, 2018:

<u>MEMBERS:</u>	<u>VOTE:</u>
Meg Bohmke, Chairman	Yes
Gary F. Snellings, Vice Chairman	Yes
Jack R. Cavalier	Yes
Thomas C. Coen	Yes
L. Mark Dudenhefer	Yes
Wendy E. Maurer	Yes
Cindy C. Shelton	Yes

On motion of Mrs. Maurer, seconded by Ms. Shelton, which carried by a vote of 7 to 0, the following was adopted:

A RESOLUTION GRANTING THE PLANNING COMMISSION ADDITIONAL TIME TO CONSIDER AMENDMENTS TO THE STAFFORD COUNTY CODE FOR THE DESIGN AND CONSTRUCTION STANDARDS FOR LANDSCAPING, SCREENING AND BUFFERING (DCSL) MANUAL AND AMENDMENTS TO OTHER ZONING ORDINANCE PROVISIONS PURSUANT TO PROPOSED ORDINANCE O18-37

WHEREAS, on October 16, 2018, the Board adopted Resolution R18-218, which requested the Planning Commission prepare amendments the Stafford County Code to amend the Design and Construction Standards for Landscaping, Screening and Buffering (DCSL) Manual, and amend other zoning ordinance provisions accordingly; and

WHEREAS, the Board of Supervisors requested the Planning Commission consider Xeriscaping design principles and the preservation of natural areas into buffering and landscaping design standards, and amend other zoning ordinance provisions accordingly; and

WHEREAS, per County Code Sec. 28-334, upon referral of a zoning text amendment to the Planning Commission, the Planning Commission has 100 days from its first meeting after the referral to act on the amendment, otherwise the amendment is deemed as recommending approval; and

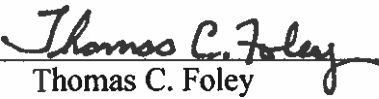
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WHEREAS, the Planning Commission requests additional time to review and make necessary changes to the proposed amendment, hold a public hearing, and present its recommendations to the Board;

NOW, THEREFORE, BE IT RESOLVED by the Stafford County Board of Supervisors on this the 11th day of December, 2018, that the Planning Commission is hereby granted an extension to March 31, 2019, to make a final recommendation regarding amendments to the Stafford County Code for the Design and Construction Standards for Landscaping, Screening and Buffering (DCSL) Manual, to consider incorporating Xeriscaping design principles and the preservation of natural areas into buffering and landscaping design standards; and amendments to other zoning ordinance provisions, pursuant to proposed Ordinance O18-37; and

BE IT FURTHER RESOLVED that the Planning Commission may make changes to the proposed ordinance and the DCSL manual as it deems appropriate.

A Copy, teste:


Thomas C. Foley
County Administrator

TCF:JH:akh

R18-218

BOARD OF SUPERVISORS
COUNTY OF STAFFORD
STAFFORD, VIRGINIA

RESOLUTION

At a regular meeting of the Stafford County Board of Supervisors (the Board) held in the Board Chambers, George L. Gordon, Jr., Government Center, Stafford, Virginia, on the 16th day of October, 2018:

<u>MEMBERS:</u>	<u>VOTE:</u>
Meg Bohmke, Chairman	Yes
Gary F. Snellings, Vice Chairman	No
Jack R. Cavalier	No
Thomas C. Coen	Yes
L. Mark Dudenhefer	Absent
Wendy E. Maurer	Yes
Cindy C. Shelton	Yes

On motion of Ms. Shelton, seconded by Mrs. Maurer, which carried by a vote of 4 to 2, the following was adopted:

A RESOLUTION REFERRING TO THE PLANNING COMMISSION AN ORDINANCE TO AMEND AND REORDAIN THE COUNTY CODE AND THE DESIGN AND CONSTRUCTION STANDARDS FOR LANDSCAPING, SCREENING, AND BUFFERING (DCSL) MANUAL, PURSUANT TO PROPOSED ORDINANCE O18-37

WHEREAS, the Process Review Committee (PRC) of the Board worked with staff and community stakeholders to evaluate the effectiveness of the County's development review processes; and

WHEREAS, the PRC recommended amendments be prepared to the standards for landscaping, screening, and buffering; and

WHEREAS, the Design and Construction Standards for Landscaping, Screening and Buffering (DCSL) Manual was adopted in December 2005; and

WHEREAS, the Planning Commission has drafted amendments to the standards for landscaping, screening and buffering in the subdivision and zoning ordinances and to the DCSL manual to promote economic development and further the goals of the Comprehensive Plan; and

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WHEREAS, the Board desires to send the amendments to the Planning Commission pursuant to proposed Ordinance O18-37 for its review, to hold a public hearing, and provide its recommendation to the Board;

NOW, THEREFORE, BE IT RESOLVED by the Stafford County Board of Supervisors on this the 16th day of October, 2018, that the proposed amendments to The Stafford County Code and the Design and Construction Standards for Landscaping, Screening, and Buffering (DCSL) manual, pursuant to proposed Ordinance O18-37, be and they hereby is referred to the Planning Commission for its review, to hold a public hearing, and provide its recommendation to the Board; and

BE IT FURTHER RESOLVED that the Planning Commission may make changes to the proposed ordinance and the DCSL manual as it deems appropriate and they are duly instructed to incorporate principles of xeriscaping and preservation of natural areas into buffering and landscaping design standards.

A Copy, teste:


Thomas C. Foley
County Administrator

TCF:JAH:akh

R17-106

BOARD OF SUPERVISORS
COUNTY OF STAFFORD
STAFFORD, VIRGINIA

RESOLUTION

At a regular meeting of the Stafford County Board of Supervisors (the Board) held in the Board Chambers, George L. Gordon, Jr., Government Center, Stafford, Virginia, on the 4th day of April, 2017:

<u>MEMBERS:</u>	<u>VOTE:</u>
Paul V. Milde, III, Chairman	Yes
Meg Bohmke, Vice Chairman	Yes
Jack R. Cavalier	Yes
Wendy E. Maurer	Yes
Laura A. Sellers	Yes
Gary F. Snellings	Yes
Robert "Bob" Thomas, Jr.	Yes

On motion of Ms. Sellers, seconded by Ms. Bohmke, which carried by a vote of 7 to 0, the following was adopted:

A RESOLUTION REQUESTING THAT THE PLANNING COMMISSION INITIATE AMENDMENTS TO THE ZONING ORDINANCE AND THE DESIGN AND CONSTRUCTION STANDARDS FOR LANDSCAPING, SCREENING, AND BUFFERING (DCSL) MANUAL

WHEREAS, the Process Review Committee (PRC) has worked with staff and community stakeholders to evaluate the effectiveness of the County's development review processes; and

WHEREAS, the PRC has recommended that amendments be prepared to the standards for residential and commercial parking, drive aisles and private streets within commercial developments, and standards for landscaping, screening and buffering; and

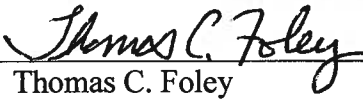
WHEREAS, the Board desires the Planning Commission to develop such amendments to promote economic development and further the goals of the Comprehensive Plan;

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NOW, THEREFORE, BE IT RESOLVED by the Stafford County Board of Supervisors on this the 4th day of April, 2017, that it be and hereby requests the Planning Commission to develop amendments to the Zoning Ordinance regarding residential and commercial parking, and drive aisles and private streets within commercial developments; and to develop amendments to the Design and Construction Standards for Landscaping, Screening and Buffering (DCSL) manual; and

BE IT FURTHER RESOLVED that the Planning Commission is requested to forward its proposed amendments to the Board for the Board's review.

A Copy, teste:



Thomas C. Foley
County Administrator

TCF:JAH:me